

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2021-0011

JULY 2022

Environmental Monitoring and Technical Services
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August 31, 2022

Mr. David W. Gibson, Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attention: POTW Compliance Unit

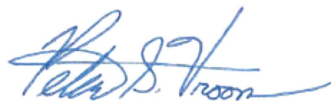
Dear Mr. Gibson:

Enclosed is the July 2022 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2021-0011, NPDES Permit No. CA0109045.

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the South Bay outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan. These data are also presented in the monthly report submitted by the International Boundary and Water Commission, U.S. Section for discharge from the South Bay International Wastewater Treatment Plant (Order No. R9-2021-0001, NPDES Permit No. CA0108928).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Peter S. Vroom, Ph. D.
Deputy Director, Public Utilities Department

PV/rk

cc: U.S. Environmental Protection Agency, Region 9

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2021-0011, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality monitoring was conducted at 11 stations located along the shore from Playa Blanca, Mexico to Coronado, USA (see station locations map). Three sites are located south of the international border (stations S0, S2, S3), while eight sites are in the United States (stations S4–S6 and S8–S12).

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were subsequently transported to the City’s Marine Microbiology Laboratory and analyzed for the presence of total coliform, fecal coliform, and *Enterococcus* bacteria. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions were recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

Seven kelp bed and other nearshore stations (I19, I24, I25, I26, I32, I39, I40; collectively referred to as “kelp” stations herein) were sampled four times during the month according to NPDES permit specifications. Six stations (I19, I24, I25, I26, I32, I40) are located along the 9-m depth contour, and one (I39) is located along the 18-m depth contour. Three of these stations, I25, I26, and I39, were selected based on their proximity to suitable substrates for the Imperial Beach kelp bed (see station locations map); however, this kelp bed has been historically transient and variable in terms of size and density. Thus, these three stations are only occasionally located within an area where kelp is actually found.

The seven kelp stations are sampled on a weekly basis during the month. Routine monitoring at each kelp site consists of collecting seawater samples at three discrete depths for bacteriological analyses (total coliforms, fecal coliforms, and *Enterococcus* bacteria) and generating water column profiles of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, and transmissivity. Visual observations of weather and water conditions are also recorded at all stations.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City’s Marine Microbiology Laboratory. Water column profiles of the various physical/chemical parameters were taken using a CTD. The CTD collected these physical/chemical data at a rate ≥ 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoft, to create water column profiles equivalent

to one reading per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Quarterly offshore water quality sampling is typically conducted over three days during February, May, August, and November for a total of 40 stations during each month (see station locations map). These offshore stations (I1–I40) are arranged in a grid surrounding the discharge site, and are generally located along the 9, 19, 28, 38, and 55-m depth contours. The seven offshore sites designated as kelp bed stations (described above) are included as part of the monthly offshore water quality sampling, however the data from these seven stations are reported within the kelp bed station section of the report with the other four days of kelp bed water quality sampling. Monitoring at all sites included measurements of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, and chromomorphous dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

At these offshore stations, water samples for bacteriological analyses were collected using a rosette sampler with Niskin bottles. Measurements of the physical/chemical parameters listed above were taken using a Sea-Bird CTD. Additionally, CTD profile data for depths closest to those at which bacteriological samples were collected were extracted from the CTD profiles and are presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

Estimated values for bacteriological analyses are denoted by greater than (>), less than (<), or estimated (e) qualifiers and result from plates with colony counts above or below the permissible counting limits established in Bordner et al. (1978)¹. This document defines membrane filtration limits of 20–80 colonies per plate for total coliforms and 20–60 colonies per plate for fecal coliforms and *Enterococcus*. No Data (ND) is reported if plate counts from all dilutions have a total colony count of >200 per plate.

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the water-contact standards specified in the 2019 California Ocean Plan (Ocean Plan). The six standards are defined as follows:

Water-Contact Objectives

Fecal coliform:

- (1) The 30-day geometric mean (GM) of fecal coliform density not to exceed 200 CFU/100 mL, calculated based on the five most recent samples from each site
- (2) The single sample maximum (SSM) not to exceed 400 CFU/100 mL

Enterococci:

- (1) The six-week rolling GM of *Enterococci* not to exceed 30 CFU/100 mL, calculated weekly
- (2) The statistical threshold value (STV) of 110 CFU/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner

¹ Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). Microbiological Methods for Monitoring the Environment: Water and Wastes, EPA Research and Development, EPA-600/8-78-017. 337 p.

Shellfish Harvesting Standards

Total coliform:

- (1) The median total coliform density shall not exceed 70 CFU/100 mL
- (2) The STV of 230 CFU/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner

Compliance with the seven Ocean Plan standards are summarized below for the stations located in USA waters. In contrast, no such compliance summaries are presented for the three shore stations located in Mexican waters south of the International Border (i.e., S0, S2, and S3) since this region is not subject to the Ocean Plan standards.

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987²) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2022 Quality Assurance Report, which will be completed in March 2023.

SUMMARY OF RESULTS

➤ Shoreline Water Quality Sampling

- Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the USIBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- During July, five of the eight shore stations located north of the border were out of compliance with 2019 California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - The statistical threshold value (STV) standard for *Enterococcus* was exceeded at stations S4 and S10.
 - The 30-day running median standard for total coliform was exceeded at stations S4, S5, and S9.
 - The STV standard for total coliforms was exceeded at stations S4, S5, S10, and S11.
- Nothing of sewage origin was observed at SBOO shore stations in July.

² Gilbert, R.O. (1987). Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold Co., New York.

- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled on July 5, 11, 20, and 25.
- Due to a lab accident, the 6m sample taken at I24 on July 5th was retaken on July 6th.
- During July, five of the seven kelp stations were out of compliance with 2019 Ocean Plan water contact standards on one or more days as follows:
 - The single sample maximum (SSM) for fecal coliforms was exceeded at station I19.
 - The STV standard for *Enterococcus* was exceeded at station I19.
 - The 30-day running median standard for total coliform was exceeded at stations I19, I24, I25, and I40.
 - The STV standard for total coliform was exceeded at stations I19, I24, I25, I26, and I40.
- Water column temperatures ranged from 12.26 to 21.24°C. The difference between surface and bottom waters ranged from 0.90 to 7.51°C.
- Concentrations of chlorophyll *a* ranged from 0.69 to 30.66 µg/L at the kelp bed stations.
- Nothing of sewage origin was observed at SBOO kelp stations in July.

➤ **Offshore Water Quality Sampling**

- Quarterly sampling was not conducted during July at the offshore stations. The next quarterly sampling is scheduled for August 2022.



TABLES AND FIGURES

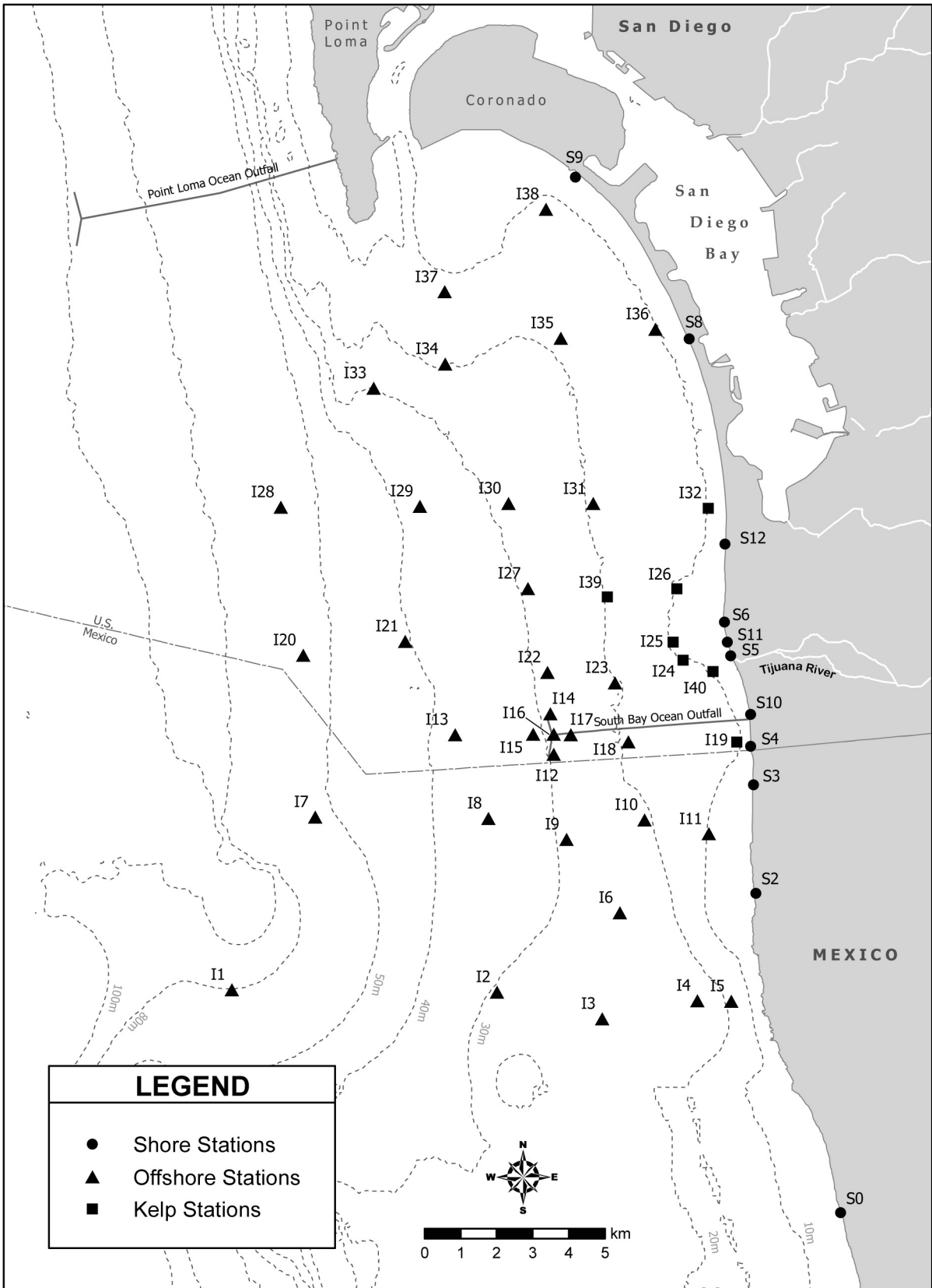


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan’s 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2022	4	4	2	2	3	3	2	2
02 Jul 2022	4	4	2	2	3	3	2	2
03 Jul 2022	4	4	2	2	3	3	2	2
04 Jul 2022	4	4	2	2	3	3	2	2
05 Jul 2022	3	4	2	2	4	3	2	2
06 Jul 2022	3	4	2	2	4	3	2	2
07 Jul 2022	4	3	2	2	4	3	2	2
08 Jul 2022	4	3	2	2	4	3	2	2
09 Jul 2022	4	3	2	2	4	3	2	2
10 Jul 2022	4	3	2	2	4	3	2	2
11 Jul 2022	4	3	2	2	4	3	2	2
12 Jul 2022	5	3	2	2	6	3	2	2
13 Jul 2022	5	3	2	2	6	3	2	2
14 Jul 2022	5	2	2	2	6	3	2	2
15 Jul 2022	5	2	2	2	6	3	2	2
16 Jul 2022	5	2	2	2	6	3	2	2
17 Jul 2022	5	2	2	2	6	3	2	2
18 Jul 2022	5	2	2	2	6	3	2	2
19 Jul 2022	11	3	3	2	6	7	4	3
20 Jul 2022	11	3	3	2	6	7	4	3
21 Jul 2022	17	4	4	2	7	9	4	4
22 Jul 2022	17	4	4	2	7	9	4	4
23 Jul 2022	17	4	4	2	7	9	4	4
24 Jul 2022	17	4	4	2	7	9	4	4
25 Jul 2022	17	4	4	2	7	9	4	4
26 Jul 2022	11	3	3	2	8	7	4	3
27 Jul 2022	11	3	3	2	8	7	4	3
28 Jul 2022	10	4	4	2	12	8	4	4
29 Jul 2022	10	4	4	2	12	8	4	4
30 Jul 2022	10	4	4	2	12	8	4	4
31 Jul 2022	10	4	4	2	12	8	4	4

* Geometric mean calculated using n<5

Table 2.2

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
05 Jul 2022	IC	IC	IC	IC	IC	IC	IC	IC
12 Jul 2022	IC	IC	IC	IC	IC	IC	IC	IC
19 Jul 2022	IC	IC	IC	IC	IC	IC	IC	IC
26 Jul 2022	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.3

Summary of compliance with the Ocean Plan's 6-week Geometric Mean standard for *Enterococcus* at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2022	3	3	2	3	3	4	2	2
02 Jul 2022	3	3	2	3	3	4	2	2
03 Jul 2022	3	3	2	3	3	4	2	2
04 Jul 2022	3	3	2	3	3	4	2	2
05 Jul 2022	3	3	2	3	3	4	2	2
06 Jul 2022	3	3	2	3	3	4	2	2
07 Jul 2022	3	3	2	3	3	4	2	2
08 Jul 2022	3	3	2	3	3	4	2	2
09 Jul 2022	3	3	2	3	3	4	2	2
10 Jul 2022	3	3	2	3	3	4	2	2
11 Jul 2022	3	3	2	3	3	4	2	2
12 Jul 2022	5	3	2	4	4	4	2	2
13 Jul 2022	5	3	2	4	4	4	2	2
14 Jul 2022	5	3	2	4	4	4	2	2
15 Jul 2022	5	3	2	4	4	4	2	2
16 Jul 2022	5	3	2	4	4	4	2	2
17 Jul 2022	5	3	2	4	4	4	2	2
18 Jul 2022	5	3	2	4	4	4	2	2
19 Jul 2022	12	4	4	4	4	9	4	4
20 Jul 2022	12	4	4	4	4	9	4	4
21 Jul 2022	12	4	4	4	4	9	4	4
22 Jul 2022	12	4	4	4	4	9	4	4
23 Jul 2022	12	4	4	4	4	9	4	4
24 Jul 2022	12	4	4	4	4	9	4	4
25 Jul 2022	12	4	4	4	4	9	4	4
26 Jul 2022	12	4	4	3	6	9	4	4
27 Jul 2022	12	4	4	3	6	9	4	4
28 Jul 2022	12	4	4	3	6	9	4	4
29 Jul 2022	12	4	4	3	6	9	4	4
30 Jul 2022	12	4	4	3	6	9	4	4
31 Jul 2022	12	4	4	3	6	9	4	4

* Geometric mean calculated using n<5

Table 2.4

Summary of compliance at the SBOO shore stations with the Ocean Plan's Statistical Threshold Value standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 110 CFU/100 mL in more than 10% of samples per month.

Date	S4	S5	S6	S8	S9	S10	S11	S12
July	E	IC	IC	IC	IC	E	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

Summary of compliance with the Ocean Plan's 30-day Median standard for total coliform bacteria at the SBOO shore stations. Data are based on the median of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >70 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Jul 2022	50	80	20	20	20	20	20	20
02 Jul 2022	50	80	20	20	20	20	20	20
03 Jul 2022	50	80	20	20	20	20	20	20
04 Jul 2022	50	80	20	20	20	20	20	20
05 Jul 2022	20	20	20	20	20	20	20	20
06 Jul 2022	20	20	20	20	20	20	20	20
07 Jul 2022	50	80	20	20	20	20	17	20
08 Jul 2022	50	80	20	20	20	20	17	20
09 Jul 2022	50	80	20	20	20	20	17	20
10 Jul 2022	50	80	20	20	20	20	17	20
11 Jul 2022	50	80	20	20	20	20	17	20
12 Jul 2022	60	20	20	20	20	20	20	20
13 Jul 2022	60	20	20	20	20	20	20	20
14 Jul 2022	40	20	20	20	100	20	17	20
15 Jul 2022	40	20	20	20	100	20	17	20
16 Jul 2022	40	20	20	20	100	20	17	20
17 Jul 2022	40	20	20	20	100	20	17	20
18 Jul 2022	40	20	20	20	100	20	17	20
19 Jul 2022	60	20	20	20	20	20	20	20
20 Jul 2022	60	20	20	20	20	20	20	20
21 Jul 2022	75	20	20	20	20	40	17	20
22 Jul 2022	75	20	20	20	20	40	17	20
23 Jul 2022	75	20	20	20	20	40	17	20
24 Jul 2022	75	20	20	20	20	40	17	20
25 Jul 2022	75	20	20	20	20	40	17	20
26 Jul 2022	60	20	20	20	20	20	20	20
27 Jul 2022	60	20	20	20	20	20	20	20
28 Jul 2022	31	20	11	20	100	31	20	20
29 Jul 2022	31	20	11	20	100	31	20	20
30 Jul 2022	31	20	11	20	100	31	20	20
31 Jul 2022	31	20	11	20	100	31	20	20

* Median calculated using n<5

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Statistical Threshold Value standard for total coliform bacteria, which states that total coliform density shall not exceed 230 CFU/100 mL in more than 10% of samples per month.

Date	S4	S5	S6	S8	S9	S10	S11	S12
July	E	E	IC	IC	IC	E	E	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

Summary of water quality parameters at the SBOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) are reported as CFU/100 mL. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Entero
S0	05 Jul 2022	930	>16000	3400e	1400e
S0	12 Jul 2022	1105	6200	2400e	860
S0	19 Jul 2022	850	7200	3600e	340e
S0	26 Jul 2022	910	>16000	7600	3600e
S2	05 Jul 2022	1030	<200	<2	<2
S2	12 Jul 2022	1020	30e	2e	14e
S2	19 Jul 2022	945	8600	860	360e
S2	26 Jul 2022	740	<20	<2	<2
S3	05 Jul 2022	1010	<2	<2	<2
S3	12 Jul 2022	1040	32e	10e	10e
S3	19 Jul 2022	925	2600e	180e	400e
S3	26 Jul 2022	755	<20	2e	4e
S4	05 Jul 2022	1005	<2	<2	<2
S4	12 Jul 2022	1101	60e	10e	18e
S4	19 Jul 2022	834	2600e	280e	440
S4	26 Jul 2022	1031	<2	<2	2e
S5	05 Jul 2022	826	<20	2e	4e
S5	12 Jul 2022	949	<20	2e	4e
S5	19 Jul 2022	940	1600e	20e	50
S5	26 Jul 2022	1114	<20	2e	<2
S6	05 Jul 2022	853	<2	<2	<2
S6	12 Jul 2022	1005	<20	2e	2e
S6	19 Jul 2022	957	180e	22e	54
S6	26 Jul 2022	1137	<2	<2	<2
S8	05 Jul 2022	1117	20e	2e	4e
S8	12 Jul 2022	858	<20	4e	6e
S8	19 Jul 2022	1048	60e	2e	2e
S8	26 Jul 2022	925	<20	<2	2e
S9	05 Jul 2022	1141	20e	8e	2e
S9	12 Jul 2022	838	180e	30e	24e
S9	19 Jul 2022	1113	<20	6e	2e
S9	26 Jul 2022	900	<200	14e	74
S10	05 Jul 2022	950	2e	<2	<2
S10	12 Jul 2022	1132	60e	4e	4e
S10	19 Jul 2022	842	3200e	200e	260e
S10	26 Jul 2022	1018	<2	<2	<2
S11	05 Jul 2022	844	<2	<2	<2
S11	12 Jul 2022	958	<20	2e	2e
S11	19 Jul 2022	950	480	40e	62
S11	26 Jul 2022	1127	<20	<2	<2
S12	05 Jul 2022	910	4e	2e	<2
S12	12 Jul 2022	922	20e	4e	2e
S12	19 Jul 2022	1007	160e	16e	52

Station	Date	Time	Total	Fecal	Enteric
S12	26 Jul 2022	1201	<20	<2	<2

ns = not sampled

ND = no data

Table 2.8

Summary of visual observations made during the month for each SBOO shore station by sample date.

Station	Date	Parameter	Value
S0	05 Jul 2022	Arrive Time	1008
S0	05 Jul 2022	Weather	Sunny
S0	05 Jul 2022	Wind Speed (kts)	2.3
S0	05 Jul 2022	Wind Dir	S
S0	05 Jul 2022	Animal Life	Dog-3; Seagull-20
S0	05 Jul 2022	Floatables	None
S0	05 Jul 2022	Water Color	Green
S0	05 Jul 2022	Current Direction	N
S0	05 Jul 2022	Water Temp (C)	20
S0	05 Jul 2022	Wave Height Low (ft)	2
S0	05 Jul 2022	High Tide (ft)	4.34
S0	05 Jul 2022	High Tide Time	51
S0	05 Jul 2022	Low Tide (ft)	0.55
S0	05 Jul 2022	Low Tide Time	810
S0	05 Jul 2022	Comments	Kelp; Algae; 1.0L/sec water flowing from storm drain
S0	12 Jul 2022	Arrive Time	
S0	12 Jul 2022	Weather	Cloudy
S0	12 Jul 2022	Wind Speed (kts)	1.2
S0	12 Jul 2022	Wind Dir	N
S0	12 Jul 2022	Animal Life	Seagull-20
S0	12 Jul 2022	Floatables	None
S0	12 Jul 2022	Water Color	Green
S0	12 Jul 2022	Current Direction	N
S0	12 Jul 2022	Water Temp (C)	13
S0	12 Jul 2022	Wave Height Low (ft)	3
S0	12 Jul 2022	High Tide (ft)	3.79
S0	12 Jul 2022	High Tide Time	934
S0	12 Jul 2022	Low Tide (ft)	-1.37
S0	12 Jul 2022	Low Tide Time	312
S0	12 Jul 2022	Comments	Kelp; Algae; No water flow from storm drain
S0	19 Jul 2022	Arrive Time	1235
S0	19 Jul 2022	Weather	Sunny
S0	19 Jul 2022	Wind Speed (kts)	1.3
S0	19 Jul 2022	Wind Dir	S
S0	19 Jul 2022	Animal Life	Dog-3; Seagull-20
S0	19 Jul 2022	Floatables	None
S0	19 Jul 2022	Water Color	Green
S0	19 Jul 2022	Current Direction	S
S0	19 Jul 2022	Water Temp (C)	20
S0	19 Jul 2022	Wave Height Low (ft)	2
S0	19 Jul 2022	High Tide (ft)	4.27
S0	19 Jul 2022	High Tide Time	146
S0	19 Jul 2022	Low Tide (ft)	0.67
S0	19 Jul 2022	Low Tide Time	826
S0	19 Jul 2022	Comments	Kelp; Algae
S0	26 Jul 2022	Arrive Time	1705
S0	26 Jul 2022	Weather	Sunny
S0	26 Jul 2022	Wind Speed (kts)	1.9
S0	26 Jul 2022	Wind Dir	N
S0	26 Jul 2022	Animal Life	Dog-1; Seagull-15
S0	26 Jul 2022	Floatables	None
S0	26 Jul 2022	Water Color	Green
S0	26 Jul 2022	Current Direction	N

Station	Date	Parameter	Value
S0	26 Jul 2022	Water Temp (C)	15
S0	26 Jul 2022	Wave Height Low (ft)	3
S0	26 Jul 2022	High Tide (ft)	3.65
S0	26 Jul 2022	High Tide Time	947
S0	26 Jul 2022	Low Tide (ft)	-0.31
S0	26 Jul 2022	Low Tide Time	318
S0	26 Jul 2022	Comments	Kelp; Algae; 1.0 L/sec water flow from storm drain
S2	05 Jul 2022	Arrive Time	
S2	05 Jul 2022	Weather	Sunny
S2	05 Jul 2022	Wind Speed (kts)	1.8
S2	05 Jul 2022	Wind Dir	S
S2	05 Jul 2022	Animal Life	Seagull-20
S2	05 Jul 2022	Floatables	None
S2	05 Jul 2022	Water Color	Green
S2	05 Jul 2022	Current Direction	N
S2	05 Jul 2022	Water Temp (C)	21
S2	05 Jul 2022	Wave Height Low (ft)	2
S2	05 Jul 2022	High Tide (ft)	4.34
S2	05 Jul 2022	High Tide Time	51
S2	05 Jul 2022	Low Tide (ft)	0.55
S2	05 Jul 2022	Low Tide Time	810
S2	05 Jul 2022	Comments	Kelp; Algae; No water flow from storm drain
S2	12 Jul 2022	Arrive Time	1244
S2	12 Jul 2022	Weather	Cloudy
S2	12 Jul 2022	Wind Speed (kts)	1.2
S2	12 Jul 2022	Wind Dir	N
S2	12 Jul 2022	Animal Life	Dog-2; Seagull-15
S2	12 Jul 2022	Floatables	None
S2	12 Jul 2022	Water Color	Green
S2	12 Jul 2022	Current Direction	N
S2	12 Jul 2022	Water Temp (C)	13
S2	12 Jul 2022	Wave Height Low (ft)	3
S2	12 Jul 2022	High Tide (ft)	3.79
S2	12 Jul 2022	High Tide Time	934
S2	12 Jul 2022	Low Tide (ft)	-1.37
S2	12 Jul 2022	Low Tide Time	312
S2	12 Jul 2022	Comments	Kelp; Algae; No Water flow from storm drain
S2	19 Jul 2022	Arrive Time	
S2	19 Jul 2022	Weather	Sunny
S2	19 Jul 2022	Wind Speed (kts)	1.5
S2	19 Jul 2022	Wind Dir	S
S2	19 Jul 2022	Animal Life	Dog-5; Seagull-20
S2	19 Jul 2022	Floatables	None
S2	19 Jul 2022	Water Color	Green
S2	19 Jul 2022	Current Direction	S
S2	19 Jul 2022	Water Temp (C)	20
S2	19 Jul 2022	Wave Height Low (ft)	2
S2	19 Jul 2022	High Tide (ft)	4.27
S2	19 Jul 2022	High Tide Time	146
S2	19 Jul 2022	Low Tide (ft)	0.67
S2	19 Jul 2022	Low Tide Time	826
S2	19 Jul 2022	Comments	Kelp; Algae; No water flow from storm drain; Person/Walker/Jogger-2
S2	26 Jul 2022	Arrive Time	
S2	26 Jul 2022	Weather	Cloudy
S2	26 Jul 2022	Wind Speed (kts)	0.9
S2	26 Jul 2022	Wind Dir	N

Station	Date	Parameter	Value
S2	26 Jul 2022	Animal Life	Dog-2; Seagull-10
S2	26 Jul 2022	Floatables	None
S2	26 Jul 2022	Water Color	Green
S2	26 Jul 2022	Current Direction	N
S2	26 Jul 2022	Water Temp (C)	15
S2	26 Jul 2022	Wave Height Low (ft)	3
S2	26 Jul 2022	High Tide (ft)	3.65
S2	26 Jul 2022	High Tide Time	947
S2	26 Jul 2022	Low Tide (ft)	-0.31
S2	26 Jul 2022	Low Tide Time	318
S2	26 Jul 2022	Comments	Kelp; Algae; No water flow from storm drain
S3	05 Jul 2022	Arrive Time	958
S3	05 Jul 2022	Weather	Sunny
S3	05 Jul 2022	Wind Speed (kts)	1.6
S3	05 Jul 2022	Wind Dir	S
S3	05 Jul 2022	Animal Life	Dog-2; Seagull-20
S3	05 Jul 2022	Floatables	None
S3	05 Jul 2022	Water Color	Green
S3	05 Jul 2022	Current Direction	N
S3	05 Jul 2022	Water Temp (C)	21
S3	05 Jul 2022	Wave Height Low (ft)	2
S3	05 Jul 2022	High Tide (ft)	4.34
S3	05 Jul 2022	High Tide Time	51
S3	05 Jul 2022	Low Tide (ft)	0.55
S3	05 Jul 2022	Low Tide Time	810
S3	05 Jul 2022	Comments	Kelp; Algae; 1.0L/sec water flowing from storm drain; Boogie boarder/Swimmer-10
S3	12 Jul 2022	Arrive Time	1241
S3	12 Jul 2022	Weather	Cloudy
S3	12 Jul 2022	Wind Speed (kts)	0.3
S3	12 Jul 2022	Wind Dir	N
S3	12 Jul 2022	Animal Life	Fish-3; Seagull-15
S3	12 Jul 2022	Floatables	None
S3	12 Jul 2022	Water Color	Green
S3	12 Jul 2022	Current Direction	N
S3	12 Jul 2022	Water Temp (C)	13
S3	12 Jul 2022	Wave Height Low (ft)	3
S3	12 Jul 2022	High Tide (ft)	3.79
S3	12 Jul 2022	High Tide Time	934
S3	12 Jul 2022	Low Tide (ft)	-1.37
S3	12 Jul 2022	Low Tide Time	312
S3	12 Jul 2022	Comments	Kelp; Algae; No Water flow from storm drain
S3	19 Jul 2022	Arrive Time	1214
S3	19 Jul 2022	Weather	Sunny
S3	19 Jul 2022	Wind Speed (kts)	1.9
S3	19 Jul 2022	Wind Dir	S
S3	19 Jul 2022	Animal Life	Seagull-20
S3	19 Jul 2022	Floatables	None
S3	19 Jul 2022	Water Color	Green
S3	19 Jul 2022	Current Direction	S
S3	19 Jul 2022	Water Temp (C)	20
S3	19 Jul 2022	Wave Height Low (ft)	2
S3	19 Jul 2022	High Tide (ft)	4.27
S3	19 Jul 2022	High Tide Time	146
S3	19 Jul 2022	Low Tide (ft)	0.67
S3	19 Jul 2022	Low Tide Time	826
S3	19 Jul 2022	Comments	Kelp; Storm Drain was wet but no water flow was observed; Sun Bather-20

Station	Date	Parameter	Value
S3	26 Jul 2022	Arrive Time	1659
S3	26 Jul 2022	Weather	Cloudy
S3	26 Jul 2022	Wind Speed (kts)	0.2
S3	26 Jul 2022	Wind Dir	N
S3	26 Jul 2022	Animal Life	Dog-1; Seagull-10
S3	26 Jul 2022	Floatables	None
S3	26 Jul 2022	Water Color	Green
S3	26 Jul 2022	Current Direction	N
S3	26 Jul 2022	Water Temp (C)	15
S3	26 Jul 2022	Wave Height Low (ft)	3
S3	26 Jul 2022	High Tide (ft)	3.65
S3	26 Jul 2022	High Tide Time	947
S3	26 Jul 2022	Low Tide (ft)	-0.31
S3	26 Jul 2022	Low Tide Time	318
S3	26 Jul 2022	Comments	Kelp; Algae
S4	05 Jul 2022	Arrive Time	1005
S4	05 Jul 2022	Weather	Sunny
S4	05 Jul 2022	Wind Speed (kts)	6.9
S4	05 Jul 2022	Wind Dir	SW
S4	05 Jul 2022	Animal Life	Pelican-2
S4	05 Jul 2022	Floatables	Foam
S4	05 Jul 2022	Water Color	Green
S4	05 Jul 2022	Current Direction	
S4	05 Jul 2022	Water Temp (C)	22.5
S4	05 Jul 2022	Wave Height Low (ft)	1
S4	05 Jul 2022	High Tide (ft)	4.34
S4	05 Jul 2022	High Tide Time	51
S4	05 Jul 2022	Low Tide (ft)	0.55
S4	05 Jul 2022	Low Tide Time	810
S4	05 Jul 2022	Comments	Seagrass; Kelp
S4	12 Jul 2022	Arrive Time	1101
S4	12 Jul 2022	Weather	Cloudy
S4	12 Jul 2022	Wind Speed (kts)	1.8
S4	12 Jul 2022	Wind Dir	W
S4	12 Jul 2022	Animal Life	Bird-1; Dolphin-6
S4	12 Jul 2022	Floatables	Foam
S4	12 Jul 2022	Water Color	Green
S4	12 Jul 2022	Current Direction	S
S4	12 Jul 2022	Water Temp (C)	18.2
S4	12 Jul 2022	Wave Height Low (ft)	3
S4	12 Jul 2022	High Tide (ft)	3.79
S4	12 Jul 2022	High Tide Time	934
S4	12 Jul 2022	Low Tide (ft)	-1.37
S4	12 Jul 2022	Low Tide Time	312
S4	12 Jul 2022	Comments	Kelp; Seagrass; Debris
S4	19 Jul 2022	Arrive Time	834
S4	19 Jul 2022	Weather	Sunny
S4	19 Jul 2022	Wind Speed (kts)	1.7
S4	19 Jul 2022	Wind Dir	W
S4	19 Jul 2022	Animal Life	Bird-15; Seagull-1
S4	19 Jul 2022	Floatables	Foam
S4	19 Jul 2022	Water Color	Green
S4	19 Jul 2022	Current Direction	N
S4	19 Jul 2022	Water Temp (C)	20.3
S4	19 Jul 2022	Wave Height Low (ft)	5
S4	19 Jul 2022	High Tide (ft)	4.27
S4	19 Jul 2022	High Tide Time	146

Station	Date	Parameter	Value
S4	19 Jul 2022	Low Tide (ft)	0.67
S4	19 Jul 2022	Low Tide Time	826
S4	19 Jul 2022	Comments	Water turbid; Trash-2; Kelp; Seagrass; Person/Walker/Jogger-1
S4	26 Jul 2022	Arrive Time	1031
S4	26 Jul 2022	Weather	Sunny
S4	26 Jul 2022	Wind Speed (kts)	4.4
S4	26 Jul 2022	Wind Dir	W
S4	26 Jul 2022	Animal Life	Bird-30; Pelican-15
S4	26 Jul 2022	Floatables	Foam
S4	26 Jul 2022	Water Color	Green
S4	26 Jul 2022	Current Direction	S
S4	26 Jul 2022	Water Temp (C)	23.1
S4	26 Jul 2022	Wave Height Low (ft)	1
S4	26 Jul 2022	High Tide (ft)	3.65
S4	26 Jul 2022	High Tide Time	947
S4	26 Jul 2022	Low Tide (ft)	-0.31
S4	26 Jul 2022	Low Tide Time	318
S4	26 Jul 2022	Comments	Water turbid; Trash-3; Seagrass; Kelp; Debris; Person/Walker/Jogger-5
S5	05 Jul 2022	Arrive Time	826
S5	05 Jul 2022	Weather	Cloudy
S5	05 Jul 2022	Wind Speed (kts)	1.7
S5	05 Jul 2022	Wind Dir	SW
S5	05 Jul 2022	Animal Life	Bird-1; Pelican-4
S5	05 Jul 2022	Floatables	None
S5	05 Jul 2022	Water Color	Green
S5	05 Jul 2022	Current Direction	S
S5	05 Jul 2022	Water Temp (C)	22.1
S5	05 Jul 2022	Wave Height Low (ft)	1
S5	05 Jul 2022	High Tide (ft)	4.34
S5	05 Jul 2022	High Tide Time	51
S5	05 Jul 2022	Low Tide (ft)	0.55
S5	05 Jul 2022	Low Tide Time	810
S5	05 Jul 2022	Comments	Kelp; Seagrass
S5	12 Jul 2022	Arrive Time	949
S5	12 Jul 2022	Weather	Overcast
S5	12 Jul 2022	Wind Speed (kts)	2
S5	12 Jul 2022	Wind Dir	W
S5	12 Jul 2022	Animal Life	Dog-1
S5	12 Jul 2022	Floatables	None
S5	12 Jul 2022	Water Color	Green
S5	12 Jul 2022	Current Direction	S
S5	12 Jul 2022	Water Temp (C)	17.2
S5	12 Jul 2022	Wave Height Low (ft)	2
S5	12 Jul 2022	High Tide (ft)	3.79
S5	12 Jul 2022	High Tide Time	934
S5	12 Jul 2022	Low Tide (ft)	-1.37
S5	12 Jul 2022	Low Tide Time	312
S5	12 Jul 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Debris; Person/Walker/Jogger-6
S5	19 Jul 2022	Arrive Time	940
S5	19 Jul 2022	Weather	Sunny
S5	19 Jul 2022	Wind Speed (kts)	4.1
S5	19 Jul 2022	Wind Dir	NW
S5	19 Jul 2022	Animal Life	Bird-5
S5	19 Jul 2022	Floatables	Foam

Station	Date	Parameter	Value
S5	19 Jul 2022	Water Color	Green
S5	19 Jul 2022	Current Direction	N
S5	19 Jul 2022	Water Temp (C)	22.6
S5	19 Jul 2022	Wave Height Low (ft)	4
S5	19 Jul 2022	High Tide (ft)	4.27
S5	19 Jul 2022	High Tide Time	146
S5	19 Jul 2022	Low Tide (ft)	0.67
S5	19 Jul 2022	Low Tide Time	826
S5	19 Jul 2022	Comments	Kelp; Seagrass; Debris
S5	26 Jul 2022	Arrive Time	1114
S5	26 Jul 2022	Weather	Sunny
S5	26 Jul 2022	Wind Speed (kts)	8.1
S5	26 Jul 2022	Wind Dir	NW
S5	26 Jul 2022	Animal Life	Bird-10; Dog-2
S5	26 Jul 2022	Floatables	Foam
S5	26 Jul 2022	Water Color	Green
S5	26 Jul 2022	Current Direction	S
S5	26 Jul 2022	Water Temp (C)	23.2
S5	26 Jul 2022	Wave Height Low (ft)	1
S5	26 Jul 2022	High Tide (ft)	3.65
S5	26 Jul 2022	High Tide Time	947
S5	26 Jul 2022	Low Tide (ft)	-0.31
S5	26 Jul 2022	Low Tide Time	318
S5	26 Jul 2022	Comments	Water turbid; Trash-2; Kelp; Seagrass; Person/Walker/Jogger-2
S6	05 Jul 2022	Arrive Time	853
S6	05 Jul 2022	Weather	Cloudy
S6	05 Jul 2022	Wind Speed (kts)	4.6
S6	05 Jul 2022	Wind Dir	SW
S6	05 Jul 2022	Animal Life	Dog-1
S6	05 Jul 2022	Floatables	None
S6	05 Jul 2022	Water Color	Green
S6	05 Jul 2022	Current Direction	N
S6	05 Jul 2022	Water Temp (C)	22.1
S6	05 Jul 2022	Wave Height Low (ft)	1
S6	05 Jul 2022	High Tide (ft)	4.34
S6	05 Jul 2022	High Tide Time	51
S6	05 Jul 2022	Low Tide (ft)	0.55
S6	05 Jul 2022	Low Tide Time	810
S6	05 Jul 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-3
S6	12 Jul 2022	Arrive Time	1005
S6	12 Jul 2022	Weather	Overcast
S6	12 Jul 2022	Wind Speed (kts)	3.3
S6	12 Jul 2022	Wind Dir	W
S6	12 Jul 2022	Animal Life	Bird-4
S6	12 Jul 2022	Floatables	None
S6	12 Jul 2022	Water Color	Green
S6	12 Jul 2022	Current Direction	S
S6	12 Jul 2022	Water Temp (C)	18.1
S6	12 Jul 2022	Wave Height Low (ft)	3
S6	12 Jul 2022	High Tide (ft)	3.79
S6	12 Jul 2022	High Tide Time	934
S6	12 Jul 2022	Low Tide (ft)	-1.37
S6	12 Jul 2022	Low Tide Time	312
S6	12 Jul 2022	Comments	Water clear; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-3

Station	Date	Parameter	Value
S6	19 Jul 2022	Arrive Time	957
S6	19 Jul 2022	Weather	Sunny
S6	19 Jul 2022	Wind Speed (kts)	3.2
S6	19 Jul 2022	Wind Dir	W
S6	19 Jul 2022	Animal Life	
S6	19 Jul 2022	Floatables	Foam
S6	19 Jul 2022	Water Color	Green
S6	19 Jul 2022	Current Direction	N
S6	19 Jul 2022	Water Temp (C)	21.4
S6	19 Jul 2022	Wave Height Low (ft)	3
S6	19 Jul 2022	High Tide (ft)	4.27
S6	19 Jul 2022	High Tide Time	146
S6	19 Jul 2022	Low Tide (ft)	0.67
S6	19 Jul 2022	Low Tide Time	826
S6	19 Jul 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Kelp; Sea-grass; Person/Walker/Jogger-4
S6	26 Jul 2022	Arrive Time	1137
S6	26 Jul 2022	Weather	Sunny
S6	26 Jul 2022	Wind Speed (kts)	7.3
S6	26 Jul 2022	Wind Dir	NW
S6	26 Jul 2022	Animal Life	Bird-55; Dog-2
S6	26 Jul 2022	Floatables	Foam
S6	26 Jul 2022	Water Color	Green
S6	26 Jul 2022	Current Direction	S
S6	26 Jul 2022	Water Temp (C)	22.6
S6	26 Jul 2022	Wave Height Low (ft)	1
S6	26 Jul 2022	High Tide (ft)	3.65
S6	26 Jul 2022	High Tide Time	947
S6	26 Jul 2022	Low Tide (ft)	-0.31
S6	26 Jul 2022	Low Tide Time	318
S6	26 Jul 2022	Comments	Water turbid; Trash-1; Person/Walker/Jogger-5
S8	05 Jul 2022	Arrive Time	1117
S8	05 Jul 2022	Weather	Sunny
S8	05 Jul 2022	Wind Speed (kts)	5
S8	05 Jul 2022	Wind Dir	SW
S8	05 Jul 2022	Animal Life	Seagull-3
S8	05 Jul 2022	Floatables	None
S8	05 Jul 2022	Water Color	Green
S8	05 Jul 2022	Current Direction	N
S8	05 Jul 2022	Water Temp (C)	25.1
S8	05 Jul 2022	Wave Height Low (ft)	1
S8	05 Jul 2022	High Tide (ft)	4.34
S8	05 Jul 2022	High Tide Time	51
S8	05 Jul 2022	Low Tide (ft)	0.55
S8	05 Jul 2022	Low Tide Time	810
S8	05 Jul 2022	Comments	Seagrass; Kelp
S8	12 Jul 2022	Arrive Time	858
S8	12 Jul 2022	Weather	Overcast
S8	12 Jul 2022	Wind Speed (kts)	4.3
S8	12 Jul 2022	Wind Dir	W
S8	12 Jul 2022	Animal Life	Bird-2; Dolphin-2; Seagull-1
S8	12 Jul 2022	Floatables	None
S8	12 Jul 2022	Water Color	Green
S8	12 Jul 2022	Current Direction	S
S8	12 Jul 2022	Water Temp (C)	17.9
S8	12 Jul 2022	Wave Height Low (ft)	2
S8	12 Jul 2022	High Tide (ft)	3.79
S8	12 Jul 2022	High Tide Time	934

Station	Date	Parameter	Value
S8	12 Jul 2022	Low Tide (ft)	-1.37
S8	12 Jul 2022	Low Tide Time	312
S8	12 Jul 2022	Comments	Kelp; Seagrass
S8	19 Jul 2022	Arrive Time	1048
S8	19 Jul 2022	Weather	Sunny
S8	19 Jul 2022	Wind Speed (kts)	6.8
S8	19 Jul 2022	Wind Dir	W
S8	19 Jul 2022	Animal Life	Seagull-2
S8	19 Jul 2022	Floatables	Foam
S8	19 Jul 2022	Water Color	Green
S8	19 Jul 2022	Current Direction	N
S8	19 Jul 2022	Water Temp (C)	21.4
S8	19 Jul 2022	Wave Height Low (ft)	5
S8	19 Jul 2022	High Tide (ft)	4.27
S8	19 Jul 2022	High Tide Time	146
S8	19 Jul 2022	Low Tide (ft)	0.67
S8	19 Jul 2022	Low Tide Time	826
S8	19 Jul 2022	Comments	Water turbid; Boogie boarder/Swimmer-2; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-7
S8	26 Jul 2022	Arrive Time	925
S8	26 Jul 2022	Weather	Cloudy
S8	26 Jul 2022	Wind Speed (kts)	4.4
S8	26 Jul 2022	Wind Dir	W
S8	26 Jul 2022	Animal Life	Pelican-1
S8	26 Jul 2022	Floatables	Foam
S8	26 Jul 2022	Water Color	Brown
S8	26 Jul 2022	Current Direction	N
S8	26 Jul 2022	Water Temp (C)	23
S8	26 Jul 2022	Wave Height Low (ft)	1
S8	26 Jul 2022	High Tide (ft)	3.65
S8	26 Jul 2022	High Tide Time	947
S8	26 Jul 2022	Low Tide (ft)	-0.31
S8	26 Jul 2022	Low Tide Time	318
S8	26 Jul 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-5
S9	05 Jul 2022	Arrive Time	1141
S9	05 Jul 2022	Weather	Sunny
S9	05 Jul 2022	Wind Speed (kts)	7.5
S9	05 Jul 2022	Wind Dir	W
S9	05 Jul 2022	Animal Life	
S9	05 Jul 2022	Floatables	None
S9	05 Jul 2022	Water Color	Green
S9	05 Jul 2022	Current Direction	S
S9	05 Jul 2022	Water Temp (C)	25.1
S9	05 Jul 2022	Wave Height Low (ft)	1
S9	05 Jul 2022	High Tide (ft)	4.34
S9	05 Jul 2022	High Tide Time	51
S9	05 Jul 2022	Low Tide (ft)	0.55
S9	05 Jul 2022	Low Tide Time	810
S9	05 Jul 2022	Comments	Water turbid; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-4
S9	12 Jul 2022	Arrive Time	838
S9	12 Jul 2022	Weather	Overcast
S9	12 Jul 2022	Wind Speed (kts)	1.8
S9	12 Jul 2022	Wind Dir	NW
S9	12 Jul 2022	Animal Life	Bird-1; Seagull-2
S9	12 Jul 2022	Floatables	None

Station	Date	Parameter	Value
S9	12 Jul 2022	Water Color	Green
S9	12 Jul 2022	Current Direction	S
S9	12 Jul 2022	Water Temp (C)	17.7
S9	12 Jul 2022	Wave Height Low (ft)	1
S9	12 Jul 2022	High Tide (ft)	3.79
S9	12 Jul 2022	High Tide Time	934
S9	12 Jul 2022	Low Tide (ft)	-1.37
S9	12 Jul 2022	Low Tide Time	312
S9	12 Jul 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Kelp; Sea-grass; Person/Walker/Jogger-4
S9	19 Jul 2022	Arrive Time	1113
S9	19 Jul 2022	Weather	Sunny
S9	19 Jul 2022	Wind Speed (kts)	5.5
S9	19 Jul 2022	Wind Dir	NW
S9	19 Jul 2022	Animal Life	Seagull-5
S9	19 Jul 2022	Floatables	None
S9	19 Jul 2022	Water Color	Green
S9	19 Jul 2022	Current Direction	N
S9	19 Jul 2022	Water Temp (C)	22.4
S9	19 Jul 2022	Wave Height Low (ft)	3
S9	19 Jul 2022	High Tide (ft)	4.27
S9	19 Jul 2022	High Tide Time	146
S9	19 Jul 2022	Low Tide (ft)	0.67
S9	19 Jul 2022	Low Tide Time	826
S9	19 Jul 2022	Comments	Water clear; Boogie boarder/Swimmer-3; Surfer/Paddle boarder-14; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-27
S9	26 Jul 2022	Arrive Time	900
S9	26 Jul 2022	Weather	Partly cloudy
S9	26 Jul 2022	Wind Speed (kts)	3.6
S9	26 Jul 2022	Wind Dir	W
S9	26 Jul 2022	Animal Life	Seagull-6
S9	26 Jul 2022	Floatables	Foam
S9	26 Jul 2022	Water Color	Green
S9	26 Jul 2022	Current Direction	S
S9	26 Jul 2022	Water Temp (C)	23.2
S9	26 Jul 2022	Wave Height Low (ft)	1
S9	26 Jul 2022	High Tide (ft)	3.65
S9	26 Jul 2022	High Tide Time	947
S9	26 Jul 2022	Low Tide (ft)	-0.31
S9	26 Jul 2022	Low Tide Time	318
S9	26 Jul 2022	Comments	Water turbid; Surfer/Paddle boarder-1; Trash-1; Kelp; Sea-grass; Person/Walker/Jogger-3
S10	05 Jul 2022	Arrive Time	950
S10	05 Jul 2022	Weather	Sunny
S10	05 Jul 2022	Wind Speed (kts)	6.6
S10	05 Jul 2022	Wind Dir	SW
S10	05 Jul 2022	Animal Life	Bird-3
S10	05 Jul 2022	Floatables	None
S10	05 Jul 2022	Water Color	Green
S10	05 Jul 2022	Current Direction	
S10	05 Jul 2022	Water Temp (C)	22.5
S10	05 Jul 2022	Wave Height Low (ft)	1
S10	05 Jul 2022	High Tide (ft)	4.34
S10	05 Jul 2022	High Tide Time	51
S10	05 Jul 2022	Low Tide (ft)	0.55
S10	05 Jul 2022	Low Tide Time	810

Station	Date	Parameter	Value
S10	05 Jul 2022	Comments	Water clear; Trash-2; Kelp; Seagrass; Debris; Person/Walker/Jogger-2
S10	12 Jul 2022	Arrive Time	1132
S10	12 Jul 2022	Weather	Cloudy
S10	12 Jul 2022	Wind Speed (kts)	1.6
S10	12 Jul 2022	Wind Dir	W
S10	12 Jul 2022	Animal Life	Bird-6; Dolphin-7; Horse-2
S10	12 Jul 2022	Floatables	Dead animals
S10	12 Jul 2022	Water Color	Green
S10	12 Jul 2022	Current Direction	S
S10	12 Jul 2022	Water Temp (C)	17.9
S10	12 Jul 2022	Wave Height Low (ft)	3
S10	12 Jul 2022	High Tide (ft)	3.79
S10	12 Jul 2022	High Tide Time	934
S10	12 Jul 2022	Low Tide (ft)	-1.37
S10	12 Jul 2022	Low Tide Time	312
S10	12 Jul 2022	Comments	Water turbid; Trash-3; Kelp; Seagrass; Debris; Person/Walker/Jogger-2
S10	19 Jul 2022	Arrive Time	842
S10	19 Jul 2022	Weather	Sunny
S10	19 Jul 2022	Wind Speed (kts)	1.7
S10	19 Jul 2022	Wind Dir	W
S10	19 Jul 2022	Animal Life	
S10	19 Jul 2022	Floatables	Foam
S10	19 Jul 2022	Water Color	Green
S10	19 Jul 2022	Current Direction	N
S10	19 Jul 2022	Water Temp (C)	20.3
S10	19 Jul 2022	Wave Height Low (ft)	4
S10	19 Jul 2022	High Tide (ft)	4.27
S10	19 Jul 2022	High Tide Time	146
S10	19 Jul 2022	Low Tide (ft)	0.67
S10	19 Jul 2022	Low Tide Time	826
S10	19 Jul 2022	Comments	Kelp; Seagrass
S10	26 Jul 2022	Arrive Time	1018
S10	26 Jul 2022	Weather	Sunny
S10	26 Jul 2022	Wind Speed (kts)	3.6
S10	26 Jul 2022	Wind Dir	W
S10	26 Jul 2022	Animal Life	Bird-1; Horse-4
S10	26 Jul 2022	Floatables	Foam
S10	26 Jul 2022	Water Color	Green
S10	26 Jul 2022	Current Direction	S
S10	26 Jul 2022	Water Temp (C)	23.5
S10	26 Jul 2022	Wave Height Low (ft)	1
S10	26 Jul 2022	High Tide (ft)	3.65
S10	26 Jul 2022	High Tide Time	947
S10	26 Jul 2022	Low Tide (ft)	-0.31
S10	26 Jul 2022	Low Tide Time	318
S10	26 Jul 2022	Comments	Water turbid; Trash-3; Seagrass; Kelp; Debris; Person/Walker/Jogger-4
S11	05 Jul 2022	Arrive Time	844
S11	05 Jul 2022	Weather	Cloudy
S11	05 Jul 2022	Wind Speed (kts)	4.8
S11	05 Jul 2022	Wind Dir	W
S11	05 Jul 2022	Animal Life	Bird-1; Pelican-10
S11	05 Jul 2022	Floatables	None
S11	05 Jul 2022	Water Color	Green
S11	05 Jul 2022	Current Direction	S

Station	Date	Parameter	Value
S11	05 Jul 2022	Water Temp (C)	22
S11	05 Jul 2022	Wave Height Low (ft)	1
S11	05 Jul 2022	High Tide (ft)	4.34
S11	05 Jul 2022	High Tide Time	51
S11	05 Jul 2022	Low Tide (ft)	0.55
S11	05 Jul 2022	Low Tide Time	810
S11	05 Jul 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-2
S11	12 Jul 2022	Arrive Time	958
S11	12 Jul 2022	Weather	Overcast
S11	12 Jul 2022	Wind Speed (kts)	2
S11	12 Jul 2022	Wind Dir	W
S11	12 Jul 2022	Animal Life	Bird-14; Seal/Sea Lion-1
S11	12 Jul 2022	Floatables	None
S11	12 Jul 2022	Water Color	Green
S11	12 Jul 2022	Current Direction	S
S11	12 Jul 2022	Water Temp (C)	17.4
S11	12 Jul 2022	Wave Height Low (ft)	2
S11	12 Jul 2022	High Tide (ft)	3.79
S11	12 Jul 2022	High Tide Time	934
S11	12 Jul 2022	Low Tide (ft)	-1.37
S11	12 Jul 2022	Low Tide Time	312
S11	12 Jul 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Algae; Person/Walker/Jogger-3
S11	19 Jul 2022	Arrive Time	950
S11	19 Jul 2022	Weather	Sunny
S11	19 Jul 2022	Wind Speed (kts)	3.2
S11	19 Jul 2022	Wind Dir	W
S11	19 Jul 2022	Animal Life	Bird-3
S11	19 Jul 2022	Floatables	Foam
S11	19 Jul 2022	Water Color	Green
S11	19 Jul 2022	Current Direction	N
S11	19 Jul 2022	Water Temp (C)	21.5
S11	19 Jul 2022	Wave Height Low (ft)	4
S11	19 Jul 2022	High Tide (ft)	4.27
S11	19 Jul 2022	High Tide Time	146
S11	19 Jul 2022	Low Tide (ft)	0.67
S11	19 Jul 2022	Low Tide Time	826
S11	19 Jul 2022	Comments	Water clear; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-2
S11	26 Jul 2022	Arrive Time	1127
S11	26 Jul 2022	Weather	Sunny
S11	26 Jul 2022	Wind Speed (kts)	8.9
S11	26 Jul 2022	Wind Dir	NW
S11	26 Jul 2022	Animal Life	Bird-40; Seagull-1
S11	26 Jul 2022	Floatables	Foam
S11	26 Jul 2022	Water Color	Green
S11	26 Jul 2022	Current Direction	S
S11	26 Jul 2022	Water Temp (C)	23.4
S11	26 Jul 2022	Wave Height Low (ft)	1
S11	26 Jul 2022	High Tide (ft)	3.65
S11	26 Jul 2022	High Tide Time	947
S11	26 Jul 2022	Low Tide (ft)	-0.31
S11	26 Jul 2022	Low Tide Time	318
S11	26 Jul 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-8
S12	05 Jul 2022	Arrive Time	910

Station	Date	Parameter	Value
S12	05 Jul 2022	Weather	Cloudy
S12	05 Jul 2022	Wind Speed (kts)	7.3
S12	05 Jul 2022	Wind Dir	SW
S12	05 Jul 2022	Animal Life	Bird-9; Dog-1
S12	05 Jul 2022	Floatables	None
S12	05 Jul 2022	Water Color	Green
S12	05 Jul 2022	Current Direction	N
S12	05 Jul 2022	Water Temp (C)	22.6
S12	05 Jul 2022	Wave Height Low (ft)	1
S12	05 Jul 2022	High Tide (ft)	4.34
S12	05 Jul 2022	High Tide Time	51
S12	05 Jul 2022	Low Tide (ft)	0.55
S12	05 Jul 2022	Low Tide Time	810
S12	05 Jul 2022	Comments	Water clear; Trash-1; Seagrass; Kelp; Person/Walker/Jogger-1
S12	12 Jul 2022	Arrive Time	922
S12	12 Jul 2022	Weather	Overcast
S12	12 Jul 2022	Wind Speed (kts)	2.2
S12	12 Jul 2022	Wind Dir	W
S12	12 Jul 2022	Animal Life	Bird-3
S12	12 Jul 2022	Floatables	None
S12	12 Jul 2022	Water Color	Green
S12	12 Jul 2022	Current Direction	N
S12	12 Jul 2022	Water Temp (C)	18.1
S12	12 Jul 2022	Wave Height Low (ft)	2
S12	12 Jul 2022	High Tide (ft)	3.79
S12	12 Jul 2022	High Tide Time	934
S12	12 Jul 2022	Low Tide (ft)	-1.37
S12	12 Jul 2022	Low Tide Time	312
S12	12 Jul 2022	Comments	Water clear; Fisherperson-2; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-3
S12	19 Jul 2022	Arrive Time	1009
S12	19 Jul 2022	Weather	Sunny
S12	19 Jul 2022	Wind Speed (kts)	3.5
S12	19 Jul 2022	Wind Dir	W
S12	19 Jul 2022	Animal Life	Bird-22
S12	19 Jul 2022	Floatables	Foam
S12	19 Jul 2022	Water Color	Green
S12	19 Jul 2022	Current Direction	N
S12	19 Jul 2022	Water Temp (C)	21.4
S12	19 Jul 2022	Wave Height Low (ft)	4
S12	19 Jul 2022	High Tide (ft)	4.27
S12	19 Jul 2022	High Tide Time	146
S12	19 Jul 2022	Low Tide (ft)	0.67
S12	19 Jul 2022	Low Tide Time	826
S12	19 Jul 2022	Comments	Water turbid; Fisherperson-3; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-3
S12	26 Jul 2022	Arrive Time	1201
S12	26 Jul 2022	Weather	Sunny
S12	26 Jul 2022	Wind Speed (kts)	8.1
S12	26 Jul 2022	Wind Dir	W
S12	26 Jul 2022	Animal Life	Bird-1; Dog-1
S12	26 Jul 2022	Floatables	Foam
S12	26 Jul 2022	Water Color	Green
S12	26 Jul 2022	Current Direction	S
S12	26 Jul 2022	Water Temp (C)	22.6
S12	26 Jul 2022	Wave Height Low (ft)	1
S12	26 Jul 2022	High Tide (ft)	3.65

Station	Date	Parameter	Value
S12	26 Jul 2022	High Tide Time	947
S12	26 Jul 2022	Low Tide (ft)	-0.31
S12	26 Jul 2022	Low Tide Time	318
S12	26 Jul 2022	Comments	Water turbid; Trash-1; Kelp; Seagrass; Person/Walker/Jogger-5

Kelp Stations

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Jul 2022	5	4	5	3	4	3	4
02 Jul 2022	5	4	5	3	4	3	4
03 Jul 2022	5	4	5	3	4	3	4
04 Jul 2022	5	4	5	3	4	3	4
05 Jul 2022	4	3	4	3	3	3	4
06 Jul 2022	4	3	4	3	3	3	4
07 Jul 2022	5	3	5	3	4	3	4
08 Jul 2022	5	3	5	3	4	3	4
09 Jul 2022	5	3	5	3	4	3	4
10 Jul 2022	5	3	5	3	4	3	4
11 Jul 2022	5	4	4	3	3	3	4
12 Jul 2022	5	4	4	3	3	3	4
13 Jul 2022	5	4	4	3	3	3	4
14 Jul 2022	5	3	3	2	2	3	3
15 Jul 2022	5	3	3	2	2	3	3
16 Jul 2022	5	3	3	2	2	3	3
17 Jul 2022	5	3	3	2	2	3	3
18 Jul 2022	5	3	3	2	2	3	3
19 Jul 2022	5	3	3	2	2	3	3
20 Jul 2022	14	5	4	3	3	3	5
21 Jul 2022	22	5	5	4	4	4	6
22 Jul 2022	22	5	5	4	4	4	6
23 Jul 2022	22	5	5	4	4	4	6
24 Jul 2022	22	5	5	4	4	4	6
25 Jul 2022	14	5	4	3	3	3	5
26 Jul 2022	14	5	4	3	3	3	5
27 Jul 2022	14	5	4	3	3	3	5
28 Jul 2022	13	4	4	4	3	3	5
29 Jul 2022	13	4	4	4	3	3	5
30 Jul 2022	13	4	4	4	3	3	5
31 Jul 2022	13	4	4	4	3	3	5

* Geometric mean calculated using n<5

Table 3.2

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
05 Jul 2022	IC	IC	IC	IC	IC	IC	IC
06 Jul 2022	ns	IC	ns	ns	ns	ns	ns
11 Jul 2022	IC	IC	IC	IC	IC	IC	IC
20 Jul 2022	E	IC	IC	IC	IC	IC	IC
25 Jul 2022	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.3

Summary of compliance with the Ocean Plan's 6-week Geometric Mean standard for *Enterococcus* at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 6 weeks unless otherwise noted (*). Values >30 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Jul 2022	5	3	4	3	3	3	4
02 Jul 2022	5	3	4	3	3	3	4
03 Jul 2022	5	3	4	3	3	3	4
04 Jul 2022	5	3	4	3	3	3	4
05 Jul 2022	5	3	4	3	3	3	4
06 Jul 2022	5	3	4	3	3	3	4
07 Jul 2022	5	3	4	3	3	3	4
08 Jul 2022	5	3	4	3	3	3	4
09 Jul 2022	5	3	4	3	3	3	4
10 Jul 2022	5	3	4	3	3	3	4
11 Jul 2022	5	3	3	2	3	3	3
12 Jul 2022	5	3	3	2	3	3	3
13 Jul 2022	5	3	4	3	3	3	4
14 Jul 2022	5	3	4	3	3	3	4
15 Jul 2022	5	3	4	3	3	3	4
16 Jul 2022	5	3	4	3	3	3	4
17 Jul 2022	5	3	4	3	3	3	4
18 Jul 2022	5	3	4	3	3	3	4
19 Jul 2022	6	3	4	3	3	3	4
20 Jul 2022	13	4	6	4	5	3	7
21 Jul 2022	13	4	6	4	5	3	7
22 Jul 2022	13	4	6	4	5	3	7
23 Jul 2022	13	4	6	4	5	3	7
24 Jul 2022	13	4	6	4	5	3	7
25 Jul 2022	10	4	5	3	4	3	6
26 Jul 2022	11	4	4	3	3	3	5
27 Jul 2022	11	4	4	3	3	3	5
28 Jul 2022	11	4	4	3	3	3	5
29 Jul 2022	11	4	4	3	3	3	5
30 Jul 2022	11	4	4	3	3	3	5
31 Jul 2022	11	4	4	3	3	3	5

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Statistical Threshold Value standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 110 CFU/100 mL in more than 10% of samples per month.

Date	I19	I24	I25	I26	I32	I39	I40
July	E	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

Summary of compliance with the Ocean Plan’s 30-day Median standard for total coliform bacteria at the SBOO kelp stations. Data are based on the median of the five most recent samples from each site and depth over the previous 30 days unless otherwise noted (*). Values >70 CFU/100 mL exceed the standard.

Date	I19			I24			I25			I26			I32			I39			I40		
	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
01 Jul 2022	11	90	100	5	16	44	2	11	50	4	11	11	11	11	21	2	33	12	20	80	20
02 Jul 2022	11	90	100	5	16	44	2	11	50	4	11	11	11	11	21	2	33	12	20	80	20
03 Jul 2022	11	90	100	5	16	44	2	11	50	4	11	11	11	11	21	2	33	12	20	80	20
04 Jul 2022	11	90	100	5	16	44	2	11	50	4	11	11	11	11	21	2	33	12	20	80	20
05 Jul 2022	2	20	20	2	16	20	2	2	20	2	2	2	20	20	2	2	12	6	20	20	20
06 Jul 2022	2	20	20	2	12	20	2	2	20	2	2	2	20	20	2	2	12	6	20	20	20
07 Jul 2022	11	90	100	5	16	44	2	11	50	2	11	11	20	20	21	2	33	10	20	80	20
08 Jul 2022	11	90	100	5	16	44	2	11	50	2	11	11	20	20	21	2	33	10	20	80	20
09 Jul 2022	11	90	100	5	16	44	2	11	50	2	11	11	20	20	21	2	33	10	20	80	20
10 Jul 2022	11	90	100	5	16	44	2	11	50	2	11	11	20	20	21	2	33	10	20	80	20
11 Jul 2022	20	20	60	8	20	68	2	20	80	2	20	20	20	20	20	2	14	18	20	20	20
12 Jul 2022	20	20	60	8	20	68	2	20	80	2	20	20	20	20	20	2	14	18	20	20	20
13 Jul 2022	20	20	60	8	20	68	2	20	80	2	20	20	20	20	20	2	14	18	20	20	20
14 Jul 2022	11	20	40	5	16	80	11	11	50	2	11	11	20	20	11	2	13	31	20	20	20
15 Jul 2022	11	20	40	5	16	80	11	11	50	2	11	11	20	20	11	2	13	31	20	20	20
16 Jul 2022	11	20	40	5	16	80	11	11	50	2	11	11	20	20	11	2	13	31	20	20	20
17 Jul 2022	11	20	40	5	16	80	11	11	50	2	11	11	20	20	11	2	13	31	20	20	20
18 Jul 2022	11	20	40	5	16	80	11	11	50	2	11	11	20	20	11	2	13	31	20	20	20
19 Jul 2022	11	20	40	5	16	80	11	11	50	2	11	11	20	20	11	2	13	31	20	20	20
20 Jul 2022	20	20	60	6	20	140	2	20	80	2	20	20	20	20	20	2	14	4	20	20	20
21 Jul 2022	20	20	200	7	26	190	2	20	90	2	20	20	20	20	30	2	17	32	20	80	20
22 Jul 2022	20	20	200	7	26	190	2	20	90	2	20	20	20	20	30	2	17	32	20	80	20
23 Jul 2022	20	20	200	7	26	190	2	20	90	2	20	20	20	20	30	2	17	32	20	80	20
24 Jul 2022	20	20	200	7	26	190	2	20	90	2	20	20	20	20	30	2	17	32	20	80	20
25 Jul 2022	20	20	60	6	12	140	2	20	80	2	20	20	20	20	20	2	14	4	20	20	20
26 Jul 2022	20	20	60	6	12	140	2	20	80	2	20	20	20	20	20	2	14	4	20	20	20
27 Jul 2022	20	20	60	6	12	140	2	20	80	2	20	20	20	20	20	2	14	4	20	20	20
28 Jul 2022	20	20	40	4	21	71	2	11	51	2	11	11	20	20	11	2	8	3	11	12	11
29 Jul 2022	20	20	40	4	21	71	2	11	51	2	11	11	20	20	11	2	8	3	11	12	11
30 Jul 2022	20	20	40	4	21	71	2	11	51	2	11	11	20	20	11	2	8	3	11	12	11
31 Jul 2022	20	20	40	4	21	71	2	11	51	2	11	11	20	20	11	2	8	3	11	12	11

* Median calculated using n<5

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Statistical Threshold standard for total coliform bacteria, which states that total coliform density shall not exceed 230 CFU/100 mL in more than 10% of samples per station by depth, per month.

Date	I19			I24			I25			I26			I32			I39			I40		
	2m	6m	11m	2m	6m	11m	2m	6m	9m	2m	6m	9m	2m	6m	9m	2m	12m	18m	2m	6m	9m
July	IC	IC	E	IC	IC	E	IC	IC	E	IC	E	IC	IC	IC	IC	IC	IC	IC	E	E	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

Summary of water quality parameters at the SBOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) bacteria are reported as CFU/100 mL; values for temperature (Temp, °C), transmissivity (XMS, ‰), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I19	05 Jul 2022	1120	2	<2	<2	<2	19.9	71.26	9.3	33.58	8.3
I19	05 Jul 2022	1120	6	<2	<2	<2	17.4	60.24	7.8	33.43	8.3
I19	05 Jul 2022	1120	11	<2	<2	<2	13.1	59.20	6.4	33.47	8.1
I19	11 Jul 2022	1104	2	<20	10e	4e	15.6	64.79	8.2	33.50	8.1
I19	11 Jul 2022	1104	6	<20	8e	<2	13.4	56.14	7.6	33.49	8.1
I19	11 Jul 2022	1104	11	60e	2e	8e	12.9	70.46	5.0	33.51	7.9
I19	20 Jul 2022	1216	2	140	26e	68	18.2	66.80	10.2	33.41	8.3
I19	20 Jul 2022	1216	6	20e	2e	<2	17.4	58.34	9.2	33.42	8.3
I19	20 Jul 2022	1216	11	13000	3200e	1800e	16.4	64.05	8.2	33.46	8.2
I19	25 Jul 2022	1106	2	<20	<2	<2	20.9	64.57	9.6	33.55	8.3
I19	25 Jul 2022	1106	6	40e	<2	<2	18.2	58.56	7.5	33.48	8.2
I19	25 Jul 2022	1106	11	20e	<2	4e	15.1	61.47	5.8	33.48	8.0
I24	05 Jul 2022	1141	2	<2	<2	<2	19.7	74.35	10.0	33.58	8.3
I24	05 Jul 2022	1141	6	CTNA	CTNA	CTNA	18.1	68.37	9.5	33.54	8.3
I24	05 Jul 2022	1141	11	<2	<2	<2	13.5	75.99	7.2	33.45	8.2
I24	06 Jul 2022	1231	6	<2	<2	<2	ns	ns	ns	ns	ns
I24	11 Jul 2022	1128	2	<20	4e	2e	15.6	62.08	9.3	33.52	8.2
I24	11 Jul 2022	1128	6	40e	<2	<2	12.8	60.37	5.6	33.50	8.1
I24	11 Jul 2022	1128	11	140e	16e	2e	12.7	71.43	4.5	33.52	7.9
I24	20 Jul 2022	1234	2	6e	<2	<2	18.9	67.11	11.5	33.45	8.4
I24	20 Jul 2022	1234	6	80e	28e	36e	17.1	49.36	9.3	33.45	8.3
I24	20 Jul 2022	1234	11	320e	56	46	14.9	69.01	7.0	33.48	8.1
I24	25 Jul 2022	1131	2	<2	<2	<2	20.9	82.34	9.4	33.56	8.3
I24	25 Jul 2022	1131	6	<2	<2	<2	19.8	75.68	8.9	33.48	8.3
I24	25 Jul 2022	1131	11	<2	<2	<2	15.7	70.33	7.3	33.47	8.1
I25	05 Jul 2022	1148	2	<2	<2	<2	19.6	73.35	10.1	33.57	8.3
I25	05 Jul 2022	1148	6	2e	<2	<2	16.9	60.26	8.5	33.45	8.3
I25	05 Jul 2022	1148	9	<2	<2	<2	13.7	82.27	6.9	33.48	8.1
I25	11 Jul 2022	1141	2	<20	<2	<2	17.9	73.88	9.0	33.54	8.3
I25	11 Jul 2022	1141	6	<20	<2	<2	14.2	38.14	9.3	33.48	8.2
I25	11 Jul 2022	1141	9	100e	2e	<2	12.8	73.38	4.9	33.51	8.0
I25	20 Jul 2022	1241	2	2e	<2	<2	18.2	66.01	11.1	33.46	8.4
I25	20 Jul 2022	1241	6	80e	30e	34e	16.9	53.39	9.1	33.43	8.3
I25	20 Jul 2022	1241	9	240e	30e	56	15.7	66.38	7.7	33.47	8.1
I25	25 Jul 2022	1138	2	<2	<2	<2	21.0	82.04	9.0	33.56	8.3
I25	25 Jul 2022	1138	6	<2	<2	<2	20.6	81.17	9.3	33.55	8.3
I25	25 Jul 2022	1138	9	<2	<2	<2	17.5	72.99	7.3	33.50	8.2
I26	05 Jul 2022	1158	2	<2	<2	<2	19.9	68.81	9.9	33.59	8.3

Station	Date	Time	Depth	Total	Fecal	Entero	Temp	XMS	DO	Sal	pH
I26	05 Jul 2022	1158	6	<2	<2	<2	18.5	72.61	9.9	33.55	8.3
I26	05 Jul 2022	1158	9	<2	<2	<2	13.4	63.32	7.2	33.49	8.2
I26	11 Jul 2022	1151	2	<2	<2	<2	17.9	76.05	9.1	33.55	8.3
I26	11 Jul 2022	1151	6	<20	<2	<2	13.6	70.08	9.3	33.49	8.2
I26	11 Jul 2022	1151	9	<20	<2	<2	13.0	78.79	6.8	33.51	8.1
I26	20 Jul 2022	1251	2	4e	28e	<2	17.1	65.53	8.8	33.42	8.2
I26	20 Jul 2022	1251	6	340e	<2	28e	16.4	62.73	7.1	33.45	8.1
I26	20 Jul 2022	1251	9	200e	30e	20e	15.3	63.26	5.5	33.47	8.0
I26	25 Jul 2022	1149	2	<2	<2	<2	21.1	80.66	8.9	33.56	8.3
I26	25 Jul 2022	1149	6	<2	<2	<2	20.9	78.62	9.0	33.56	8.3
I26	25 Jul 2022	1149	9	<2	<2	<2	17.8	69.54	8.6	33.51	8.2
I32	05 Jul 2022	1215	2	<20	<2	<2	19.8	70.54	9.8	33.58	8.3
I32	05 Jul 2022	1215	6	<20	<2	<2	18.2	62.00	7.3	33.51	8.3
I32	05 Jul 2022	1215	9	<2	<2	<2	13.3	58.84	6.2	33.48	8.1
I32	11 Jul 2022	1205	2	<20	<2	<2	18.1	73.70	8.7	33.58	8.3
I32	11 Jul 2022	1205	6	20e	<2	<2	15.6	63.38	8.5	34.01	8.2
I32	11 Jul 2022	1205	9	<20	<2	<2	13.6	67.35	8.4	33.73	8.2
I32	20 Jul 2022	1304	2	20e	10e	18e	18.1	45.35	9.0	33.45	8.3
I32	20 Jul 2022	1304	6	220e	38e	54	16.9	70.42	8.2	33.46	8.2
I32	20 Jul 2022	1304	9	40	8e	14e	15.9	72.53	6.6	33.40	8.1
I32	25 Jul 2022	1203	2	<2	<2	<2	21.2	75.90	9.2	33.55	8.3
I32	25 Jul 2022	1203	6	<2	<2	<2	21.1	76.19	8.6	33.56	8.3
I32	25 Jul 2022	1203	9	<2	<2	<2	20.5	75.89	8.4	33.54	8.3
I39	05 Jul 2022	1057	2	<2	<2	<2	19.3	75.08	10.4	33.59	8.3
I39	05 Jul 2022	1057	12	<2	<2	<2	14.3	67.41	8.5	33.49	8.2
I39	05 Jul 2022	1057	18	<2	<2	<2	12.3	87.90	5.2	33.52	8.0
I39	11 Jul 2022	1046	2	<2	<2	<2	17.9	80.19	9.7	33.57	8.3
I39	11 Jul 2022	1046	12	14e	4e	<2	12.6	68.35	5.9	33.51	8.1
I39	11 Jul 2022	1046	18	60e	8e	<2	12.3	82.64	4.4	33.53	7.8
I39	20 Jul 2022	1005	2	20e	4e	6e	18.5	48.38	11.1	33.41	8.4
I39	20 Jul 2022	1005	12	<20	4e	4e	13.4	69.93	5.2	33.46	7.9
I39	20 Jul 2022	1005	18	4e	2e	<2	12.8	72.42	3.5	33.50	7.7
I39	25 Jul 2022	1043	2	<2	<2	<2	21.0	81.52	8.8	33.57	8.3
I39	25 Jul 2022	1043	12	<2	<2	<2	14.6	76.37	7.5	33.48	8.1
I39	25 Jul 2022	1043	18	<2	<2	<2	13.5	84.15	6.6	33.49	8.0
I40	05 Jul 2022	1131	2	<2	<2	<2	20.0	69.87	9.0	33.59	8.3
I40	05 Jul 2022	1131	6	<2	<2	<2	18.8	66.01	7.7	33.58	8.3
I40	05 Jul 2022	1131	9	<2	<2	<2	13.5	71.57	7.9	33.52	8.2
I40	11 Jul 2022	1118	2	<20	<2	2e	15.4	57.52	8.2	33.50	8.2
I40	11 Jul 2022	1118	6	20e	2e	2e	12.9	58.19	6.4	33.50	8.1
I40	11 Jul 2022	1118	9	<20	6e	<2	12.9	64.93	5.0	33.51	8.0
I40	20 Jul 2022	1227	2	300e	30e	94	18.7	68.44	10.2	33.45	8.3
I40	20 Jul 2022	1227	6	280e	54	100	17.1	59.60	8.7	33.45	8.2
I40	20 Jul 2022	1227	9	400	36e	50	16.0	54.13	7.8	33.48	8.2
I40	25 Jul 2022	1120	2	2e	<2	2e	21.0	80.86	8.6	33.55	8.2
I40	25 Jul 2022	1120	6	4e	<2	<2	19.3	71.50	8.2	33.49	8.2

Station	Date	Time	Depth	Total	Fecal	Enterococci	Temp	XMS	DO	Sal	pH
I40	25 Jul 2022	1120	9	2e	<2	<2	16.0	67.43	6.6	33.47	8.1

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
124	05 Jul 2022	6		Sample bottle was broken
124	06 Jul 2022	6		Resampled because of broken bottle on 7/5

Table 3.8

Summary of visual observations made during the month for each SBOO kelp station by sample date.

Station	Date	Parameter	Value
119	05 Jul 2022	Depth (m)	11
119	05 Jul 2022	Arrive Time	1120
119	05 Jul 2022	Depart Time	1124
119	05 Jul 2022	Air Temp (C)	18.7
119	05 Jul 2022	Weather	Clear
119	05 Jul 2022	Visibility (mi)	11
119	05 Jul 2022	Wind Speed (kts)	4.4
119	05 Jul 2022	Wind Dir	SW
119	05 Jul 2022	Water Color	Greenish-Blue
119	05 Jul 2022	Wave Ht Low (ft)	3.3
119	05 Jul 2022	Wave Period (sec)	6
119	05 Jul 2022	Sea State	Light Chop
119	05 Jul 2022	High Tide (ft)	4.37
119	05 Jul 2022	High Tide Time	754
119	05 Jul 2022	Low Tide (ft)	0.67
119	05 Jul 2022	Low Tide Time	1506
119	05 Jul 2022	Comments	none
119	11 Jul 2022	Depth (m)	11
119	11 Jul 2022	Arrive Time	1104
119	11 Jul 2022	Depart Time	1118
119	11 Jul 2022	Air Temp (C)	17.8
119	11 Jul 2022	Weather	Overcast
119	11 Jul 2022	Visibility (mi)	5
119	11 Jul 2022	Wind Speed (kts)	3.5
119	11 Jul 2022	Wind Dir	S
119	11 Jul 2022	Water Color	Green
119	11 Jul 2022	Wave Ht Low (ft)	3
119	11 Jul 2022	Wave Period (sec)	6
119	11 Jul 2022	Sea State	Calm
119	11 Jul 2022	High Tide (ft)	6.82
119	11 Jul 2022	High Tide Time	242
119	11 Jul 2022	Low Tide (ft)	-0.82
119	11 Jul 2022	Low Tide Time	924
119	11 Jul 2022	Comments	none
119	20 Jul 2022	Depth (m)	12
119	20 Jul 2022	Arrive Time	1216
119	20 Jul 2022	Depart Time	1226
119	20 Jul 2022	Air Temp (C)	20.6
119	20 Jul 2022	Weather	Overcast
119	20 Jul 2022	Visibility (mi)	8
119	20 Jul 2022	Wind Speed (kts)	0
119	20 Jul 2022	Wind Dir	NW
119	20 Jul 2022	Water Color	Greenish-Brown
119	20 Jul 2022	Wave Ht Low (ft)	4
119	20 Jul 2022	Wave Period (sec)	15
119	20 Jul 2022	Sea State	Regular Swell
119	20 Jul 2022	High Tide (ft)	4.95
119	20 Jul 2022	High Tide Time	2312
119	20 Jul 2022	Low Tide (ft)	1.44
119	20 Jul 2022	Low Tide Time	1606
119	20 Jul 2022	Comments	none
119	25 Jul 2022	Depth (m)	12
119	25 Jul 2022	Arrive Time	1106

Station	Date	Parameter	Value
I19	25 Jul 2022	Depart Time	1111
I19	25 Jul 2022	Air Temp (C)	19.7
I19	25 Jul 2022	Weather	Partly Cloudy
I19	25 Jul 2022	Visibility (mi)	10
I19	25 Jul 2022	Wind Speed (kts)	7.9
I19	25 Jul 2022	Wind Dir	W
I19	25 Jul 2022	Water Color	Brownish-Green
I19	25 Jul 2022	Wave Ht Low (ft)	3.3
I19	25 Jul 2022	Wave Period (sec)	6
I19	25 Jul 2022	Sea State	Regular Swell
I19	25 Jul 2022	High Tide (ft)	5.78
I19	25 Jul 2022	High Tide Time	248
I19	25 Jul 2022	Low Tide (ft)	-0.09
I19	25 Jul 2022	Low Tide Time	942
I19	25 Jul 2022	Comments	Very brown bloom
I24	05 Jul 2022	Depth (m)	9
I24	05 Jul 2022	Arrive Time	1141
I24	05 Jul 2022	Depart Time	1144
I24	05 Jul 2022	Air Temp (C)	18.7
I24	05 Jul 2022	Weather	Clear
I24	05 Jul 2022	Visibility (mi)	11
I24	05 Jul 2022	Wind Speed (kts)	6.6
I24	05 Jul 2022	Wind Dir	W
I24	05 Jul 2022	Water Color	Greenish-Blue
I24	05 Jul 2022	Wave Ht Low (ft)	3.3
I24	05 Jul 2022	Wave Period (sec)	6
I24	05 Jul 2022	Sea State	Light Chop
I24	05 Jul 2022	High Tide (ft)	4.37
I24	05 Jul 2022	High Tide Time	754
I24	05 Jul 2022	Low Tide (ft)	0.67
I24	05 Jul 2022	Low Tide Time	1506
I24	05 Jul 2022	Comments	6m sample lost dues to broken bottle; Resampled on 7/6
I24	06 Jul 2022	Depth (m)	10
I24	06 Jul 2022	Arrive Time	1231
I24	06 Jul 2022	Depart Time	1238
I24	06 Jul 2022	Air Temp (C)	19.7
I24	06 Jul 2022	Weather	Overcast
I24	06 Jul 2022	Visibility (mi)	6
I24	06 Jul 2022	Wind Speed (kts)	6.7
I24	06 Jul 2022	Wind Dir	W
I24	06 Jul 2022	Water Color	Blueish-Green
I24	06 Jul 2022	Wave Ht Low (ft)	3
I24	06 Jul 2022	Wave Period (sec)	6
I24	06 Jul 2022	Sea State	Rough
I24	06 Jul 2022	High Tide (ft)	4.41
I24	06 Jul 2022	High Tide Time	2300
I24	06 Jul 2022	Low Tide (ft)	1.04
I24	06 Jul 2022	Low Tide Time	1542
I24	06 Jul 2022	Comments	Recovering lost sample at I24 @ 6m from 7/5
I24	11 Jul 2022	Depth (m)	11
I24	11 Jul 2022	Arrive Time	1128
I24	11 Jul 2022	Depart Time	1140
I24	11 Jul 2022	Air Temp (C)	18.2
I24	11 Jul 2022	Weather	Overcast
I24	11 Jul 2022	Visibility (mi)	5
I24	11 Jul 2022	Wind Speed (kts)	11.2
I24	11 Jul 2022	Wind Dir	SW
I24	11 Jul 2022	Water Color	Green

Station	Date	Parameter	Value
I24	11 Jul 2022	Wave Ht Low (ft)	3
I24	11 Jul 2022	Wave Period (sec)	6
I24	11 Jul 2022	Sea State	Calm
I24	11 Jul 2022	High Tide (ft)	6.82
I24	11 Jul 2022	High Tide Time	242
I24	11 Jul 2022	Low Tide (ft)	-0.82
I24	11 Jul 2022	Low Tide Time	924
I24	11 Jul 2022	Comments	none
I24	20 Jul 2022	Depth (m)	10
I24	20 Jul 2022	Arrive Time	1234
I24	20 Jul 2022	Depart Time	1241
I24	20 Jul 2022	Air Temp (C)	20.1
I24	20 Jul 2022	Weather	Partly Cloudy
I24	20 Jul 2022	Visibility (mi)	8
I24	20 Jul 2022	Wind Speed (kts)	7.9
I24	20 Jul 2022	Wind Dir	SW
I24	20 Jul 2022	Water Color	Greenish-Brown
I24	20 Jul 2022	Wave Ht Low (ft)	4
I24	20 Jul 2022	Wave Period (sec)	15
I24	20 Jul 2022	Sea State	Regular Swell
I24	20 Jul 2022	High Tide (ft)	4.95
I24	20 Jul 2022	High Tide Time	2312
I24	20 Jul 2022	Low Tide (ft)	1.44
I24	20 Jul 2022	Low Tide Time	1606
I24	20 Jul 2022	Comments	none
I24	25 Jul 2022	Depth (m)	10
I24	25 Jul 2022	Arrive Time	1131
I24	25 Jul 2022	Depart Time	1136
I24	25 Jul 2022	Air Temp (C)	19.4
I24	25 Jul 2022	Weather	Partly Cloudy
I24	25 Jul 2022	Visibility (mi)	10
I24	25 Jul 2022	Wind Speed (kts)	9.2
I24	25 Jul 2022	Wind Dir	W
I24	25 Jul 2022	Water Color	Greenish-Blue
I24	25 Jul 2022	Wave Ht Low (ft)	3.3
I24	25 Jul 2022	Wave Period (sec)	6
I24	25 Jul 2022	Sea State	Regular Swell
I24	25 Jul 2022	High Tide (ft)	5.78
I24	25 Jul 2022	High Tide Time	248
I24	25 Jul 2022	Low Tide (ft)	-0.09
I24	25 Jul 2022	Low Tide Time	942
I24	25 Jul 2022	Comments	none
I25	05 Jul 2022	Depth (m)	1
I25	05 Jul 2022	Arrive Time	1148
I25	05 Jul 2022	Depart Time	1151
I25	05 Jul 2022	Air Temp (C)	18.5
I25	05 Jul 2022	Weather	Clear
I25	05 Jul 2022	Visibility (mi)	11
I25	05 Jul 2022	Wind Speed (kts)	6.2
I25	05 Jul 2022	Wind Dir	W
I25	05 Jul 2022	Water Color	Green
I25	05 Jul 2022	Wave Ht Low (ft)	3.3
I25	05 Jul 2022	Wave Period (sec)	6
I25	05 Jul 2022	Sea State	Light Chop
I25	05 Jul 2022	High Tide (ft)	4.37
I25	05 Jul 2022	High Tide Time	754
I25	05 Jul 2022	Low Tide (ft)	0.67
I25	05 Jul 2022	Low Tide Time	1506

Station	Date	Parameter	Value
I25	05 Jul 2022	Comments	none
I25	11 Jul 2022	Depth (m)	10
I25	11 Jul 2022	Arrive Time	1141
I25	11 Jul 2022	Depart Time	1146
I25	11 Jul 2022	Air Temp (C)	18.3
I25	11 Jul 2022	Weather	Overcast
I25	11 Jul 2022	Visibility (mi)	5
I25	11 Jul 2022	Wind Speed (kts)	6.9
I25	11 Jul 2022	Wind Dir	SW
I25	11 Jul 2022	Water Color	Green
I25	11 Jul 2022	Wave Ht Low (ft)	3
I25	11 Jul 2022	Wave Period (sec)	6
I25	11 Jul 2022	Sea State	Calm
I25	11 Jul 2022	High Tide (ft)	6.82
I25	11 Jul 2022	High Tide Time	242
I25	11 Jul 2022	Low Tide (ft)	-0.82
I25	11 Jul 2022	Low Tide Time	924
I25	11 Jul 2022	Comments	none
I25	20 Jul 2022	Depth (m)	9
I25	20 Jul 2022	Arrive Time	1241
I25	20 Jul 2022	Depart Time	1245
I25	20 Jul 2022	Air Temp (C)	20.2
I25	20 Jul 2022	Weather	Partly Cloudy
I25	20 Jul 2022	Visibility (mi)	8
I25	20 Jul 2022	Wind Speed (kts)	11.1
I25	20 Jul 2022	Wind Dir	SW
I25	20 Jul 2022	Water Color	Greenish-Brown
I25	20 Jul 2022	Wave Ht Low (ft)	4
I25	20 Jul 2022	Wave Period (sec)	15
I25	20 Jul 2022	Sea State	Regular Swell
I25	20 Jul 2022	High Tide (ft)	4.95
I25	20 Jul 2022	High Tide Time	2312
I25	20 Jul 2022	Low Tide (ft)	1.44
I25	20 Jul 2022	Low Tide Time	1606
I25	20 Jul 2022	Comments	none
I25	25 Jul 2022	Depth (m)	9
I25	25 Jul 2022	Arrive Time	1138
I25	25 Jul 2022	Depart Time	1143
I25	25 Jul 2022	Air Temp (C)	19.3
I25	25 Jul 2022	Weather	Partly Cloudy
I25	25 Jul 2022	Visibility (mi)	10
I25	25 Jul 2022	Wind Speed (kts)	9.8
I25	25 Jul 2022	Wind Dir	W
I25	25 Jul 2022	Water Color	Greenish-Blue
I25	25 Jul 2022	Wave Ht Low (ft)	3.3
I25	25 Jul 2022	Wave Period (sec)	6
I25	25 Jul 2022	Sea State	Regular Swell
I25	25 Jul 2022	High Tide (ft)	5.78
I25	25 Jul 2022	High Tide Time	248
I25	25 Jul 2022	Low Tide (ft)	-0.09
I25	25 Jul 2022	Low Tide Time	942
I25	25 Jul 2022	Comments	none
I26	05 Jul 2022	Depth (m)	10
I26	05 Jul 2022	Arrive Time	1158
I26	05 Jul 2022	Depart Time	1214
I26	05 Jul 2022	Air Temp (C)	18.6
I26	05 Jul 2022	Weather	Clear

Station	Date	Parameter	Value
I26	05 Jul 2022	Visibility (mi)	11
I26	05 Jul 2022	Wind Speed (kts)	7.6
I26	05 Jul 2022	Wind Dir	SW
I26	05 Jul 2022	Water Color	Green
I26	05 Jul 2022	Wave Ht Low (ft)	3.3
I26	05 Jul 2022	Wave Period (sec)	6
I26	05 Jul 2022	Sea State	Calm
I26	05 Jul 2022	High Tide (ft)	4.37
I26	05 Jul 2022	High Tide Time	754
I26	05 Jul 2022	Low Tide (ft)	0.67
I26	05 Jul 2022	Low Tide Time	1506
I26	05 Jul 2022	Comments	none
I26	11 Jul 2022	Depth (m)	9
I26	11 Jul 2022	Arrive Time	1151
I26	11 Jul 2022	Depart Time	1156
I26	11 Jul 2022	Air Temp (C)	18.3
I26	11 Jul 2022	Weather	Overcast
I26	11 Jul 2022	Visibility (mi)	5
I26	11 Jul 2022	Wind Speed (kts)	1
I26	11 Jul 2022	Wind Dir	W
I26	11 Jul 2022	Water Color	Green
I26	11 Jul 2022	Wave Ht Low (ft)	3
I26	11 Jul 2022	Wave Period (sec)	6
I26	11 Jul 2022	Sea State	Calm
I26	11 Jul 2022	High Tide (ft)	6.82
I26	11 Jul 2022	High Tide Time	242
I26	11 Jul 2022	Low Tide (ft)	-0.82
I26	11 Jul 2022	Low Tide Time	924
I26	11 Jul 2022	Comments	none
I26	20 Jul 2022	Depth (m)	9
I26	20 Jul 2022	Arrive Time	1251
I26	20 Jul 2022	Depart Time	1304
I26	20 Jul 2022	Air Temp (C)	19.9
I26	20 Jul 2022	Weather	Partly Cloudy
I26	20 Jul 2022	Visibility (mi)	8
I26	20 Jul 2022	Wind Speed (kts)	9.4
I26	20 Jul 2022	Wind Dir	W
I26	20 Jul 2022	Water Color	Greenish-Blue
I26	20 Jul 2022	Wave Ht Low (ft)	4
I26	20 Jul 2022	Wave Period (sec)	15
I26	20 Jul 2022	Sea State	Regular Swell
I26	20 Jul 2022	High Tide (ft)	4.95
I26	20 Jul 2022	High Tide Time	2312
I26	20 Jul 2022	Low Tide (ft)	1.44
I26	20 Jul 2022	Low Tide Time	1606
I26	20 Jul 2022	Comments	Kelp Debris
I26	25 Jul 2022	Depth (m)	9
I26	25 Jul 2022	Arrive Time	1149
I26	25 Jul 2022	Depart Time	1155
I26	25 Jul 2022	Air Temp (C)	19.3
I26	25 Jul 2022	Weather	Partly Cloudy
I26	25 Jul 2022	Visibility (mi)	10
I26	25 Jul 2022	Wind Speed (kts)	8.4
I26	25 Jul 2022	Wind Dir	W
I26	25 Jul 2022	Water Color	Greenish-Blue
I26	25 Jul 2022	Wave Ht Low (ft)	3.3
I26	25 Jul 2022	Wave Period (sec)	6
I26	25 Jul 2022	Sea State	Regular Swell

Station	Date	Parameter	Value
I26	25 Jul 2022	High Tide (ft)	5.78
I26	25 Jul 2022	High Tide Time	248
I26	25 Jul 2022	Low Tide (ft)	-0.09
I26	25 Jul 2022	Low Tide Time	942
I26	25 Jul 2022	Comments	none
I32	05 Jul 2022	Depth (m)	10
I32	05 Jul 2022	Arrive Time	1215
I32	05 Jul 2022	Depart Time	1215
I32	05 Jul 2022	Air Temp (C)	18.7
I32	05 Jul 2022	Weather	Clear
I32	05 Jul 2022	Visibility (mi)	11
I32	05 Jul 2022	Wind Speed (kts)	7.6
I32	05 Jul 2022	Wind Dir	W
I32	05 Jul 2022	Water Color	Green
I32	05 Jul 2022	Wave Ht Low (ft)	3.3
I32	05 Jul 2022	Wave Period (sec)	6
I32	05 Jul 2022	Sea State	Calm
I32	05 Jul 2022	High Tide (ft)	4.37
I32	05 Jul 2022	High Tide Time	754
I32	05 Jul 2022	Low Tide (ft)	0.67
I32	05 Jul 2022	Low Tide Time	1506
I32	05 Jul 2022	Comments	none
I32	11 Jul 2022	Depth (m)	10
I32	11 Jul 2022	Arrive Time	1205
I32	11 Jul 2022	Depart Time	1208
I32	11 Jul 2022	Air Temp (C)	18.6
I32	11 Jul 2022	Weather	Overcast
I32	11 Jul 2022	Visibility (mi)	5
I32	11 Jul 2022	Wind Speed (kts)	5.9
I32	11 Jul 2022	Wind Dir	SW
I32	11 Jul 2022	Water Color	Green
I32	11 Jul 2022	Wave Ht Low (ft)	3
I32	11 Jul 2022	Wave Period (sec)	6
I32	11 Jul 2022	Sea State	Calm
I32	11 Jul 2022	High Tide (ft)	6.82
I32	11 Jul 2022	High Tide Time	242
I32	11 Jul 2022	Low Tide (ft)	-0.82
I32	11 Jul 2022	Low Tide Time	924
I32	11 Jul 2022	Comments	none
I32	20 Jul 2022	Depth (m)	10
I32	20 Jul 2022	Arrive Time	1304
I32	20 Jul 2022	Depart Time	1318
I32	20 Jul 2022	Air Temp (C)	19.8
I32	20 Jul 2022	Weather	Partly Cloudy
I32	20 Jul 2022	Visibility (mi)	8
I32	20 Jul 2022	Wind Speed (kts)	4
I32	20 Jul 2022	Wind Dir	SW
I32	20 Jul 2022	Water Color	Greenish-Brown
I32	20 Jul 2022	Wave Ht Low (ft)	4
I32	20 Jul 2022	Wave Period (sec)	15
I32	20 Jul 2022	Sea State	Regular Swell
I32	20 Jul 2022	High Tide (ft)	4.95
I32	20 Jul 2022	High Tide Time	2312
I32	20 Jul 2022	Low Tide (ft)	1.44
I32	20 Jul 2022	Low Tide Time	1606
I32	20 Jul 2022	Comments	none
I32	25 Jul 2022	Depth (m)	10

Station	Date	Parameter	Value
132	25 Jul 2022	Arrive Time	1203
132	25 Jul 2022	Depart Time	1208
132	25 Jul 2022	Air Temp (C)	19.3
132	25 Jul 2022	Weather	Partly Cloudy
132	25 Jul 2022	Visibility (mi)	10
132	25 Jul 2022	Wind Speed (kts)	9.9
132	25 Jul 2022	Wind Dir	W
132	25 Jul 2022	Water Color	Greenish-Blue
132	25 Jul 2022	Wave Ht Low (ft)	3.3
132	25 Jul 2022	Wave Period (sec)	6
132	25 Jul 2022	Sea State	Regular Swell
132	25 Jul 2022	High Tide (ft)	5.78
132	25 Jul 2022	High Tide Time	248
132	25 Jul 2022	Low Tide (ft)	-0.09
132	25 Jul 2022	Low Tide Time	942
132	25 Jul 2022	Comments	none
139	05 Jul 2022	Depth (m)	19
139	05 Jul 2022	Arrive Time	1057
139	05 Jul 2022	Depart Time	1103
139	05 Jul 2022	Air Temp (C)	18.9
139	05 Jul 2022	Weather	Partly Cloudy
139	05 Jul 2022	Visibility (mi)	9
139	05 Jul 2022	Wind Speed (kts)	3.2
139	05 Jul 2022	Wind Dir	W
139	05 Jul 2022	Water Color	Blueish-Green
139	05 Jul 2022	Wave Ht Low (ft)	3.3
139	05 Jul 2022	Wave Period (sec)	6
139	05 Jul 2022	Sea State	Light Chop
139	05 Jul 2022	High Tide (ft)	4.37
139	05 Jul 2022	High Tide Time	754
139	05 Jul 2022	Low Tide (ft)	0.67
139	05 Jul 2022	Low Tide Time	1506
139	05 Jul 2022	Comments	none
139	11 Jul 2022	Depth (m)	18
139	11 Jul 2022	Arrive Time	1046
139	11 Jul 2022	Depart Time	1104
139	11 Jul 2022	Air Temp (C)	18.2
139	11 Jul 2022	Weather	Overcast
139	11 Jul 2022	Visibility (mi)	5
139	11 Jul 2022	Wind Speed (kts)	4.6
139	11 Jul 2022	Wind Dir	SW
139	11 Jul 2022	Water Color	Green
139	11 Jul 2022	Wave Ht Low (ft)	3
139	11 Jul 2022	Wave Period (sec)	6
139	11 Jul 2022	Sea State	Calm
139	11 Jul 2022	High Tide (ft)	6.82
139	11 Jul 2022	High Tide Time	242
139	11 Jul 2022	Low Tide (ft)	-0.82
139	11 Jul 2022	Low Tide Time	924
139	11 Jul 2022	Comments	none
139	20 Jul 2022	Depth (m)	
139	20 Jul 2022	Arrive Time	1005
139	20 Jul 2022	Depart Time	1216
139	20 Jul 2022	Air Temp (C)	19.2
139	20 Jul 2022	Weather	Overcast
139	20 Jul 2022	Visibility (mi)	8
139	20 Jul 2022	Wind Speed (kts)	5.5
139	20 Jul 2022	Wind Dir	S

Station	Date	Parameter	Value
139	20 Jul 2022	Water Color	Greenish-Brown
139	20 Jul 2022	Wave Ht Low (ft)	4
139	20 Jul 2022	Wave Period (sec)	15
139	20 Jul 2022	Sea State	Regular Swell
139	20 Jul 2022	High Tide (ft)	4.95
139	20 Jul 2022	High Tide Time	2312
139	20 Jul 2022	Low Tide (ft)	1.44
139	20 Jul 2022	Low Tide Time	1606
139	20 Jul 2022	Comments	none
139	25 Jul 2022	Depth (m)	19
139	25 Jul 2022	Arrive Time	1043
139	25 Jul 2022	Depart Time	1048
139	25 Jul 2022	Air Temp (C)	19.4
139	25 Jul 2022	Weather	Partly Cloudy
139	25 Jul 2022	Visibility (mi)	10
139	25 Jul 2022	Wind Speed (kts)	8.8
139	25 Jul 2022	Wind Dir	W
139	25 Jul 2022	Water Color	Greenish-Blue
139	25 Jul 2022	Wave Ht Low (ft)	3.3
139	25 Jul 2022	Wave Period (sec)	6
139	25 Jul 2022	Sea State	Regular Swell
139	25 Jul 2022	High Tide (ft)	5.78
139	25 Jul 2022	High Tide Time	248
139	25 Jul 2022	Low Tide (ft)	-0.09
139	25 Jul 2022	Low Tide Time	942
139	25 Jul 2022	Comments	none
140	05 Jul 2022	Depth (m)	10
140	05 Jul 2022	Arrive Time	1131
140	05 Jul 2022	Depart Time	1135
140	05 Jul 2022	Air Temp (C)	18.6
140	05 Jul 2022	Weather	Clear
140	05 Jul 2022	Visibility (mi)	11
140	05 Jul 2022	Wind Speed (kts)	8.5
140	05 Jul 2022	Wind Dir	W
140	05 Jul 2022	Water Color	Greenish-Blue
140	05 Jul 2022	Wave Ht Low (ft)	3.3
140	05 Jul 2022	Wave Period (sec)	6
140	05 Jul 2022	Sea State	Light Chop
140	05 Jul 2022	High Tide (ft)	4.37
140	05 Jul 2022	High Tide Time	754
140	05 Jul 2022	Low Tide (ft)	0.67
140	05 Jul 2022	Low Tide Time	1506
140	05 Jul 2022	Comments	none
140	11 Jul 2022	Depth (m)	
140	11 Jul 2022	Arrive Time	1118
140	11 Jul 2022	Depart Time	1128
140	11 Jul 2022	Air Temp (C)	18.1
140	11 Jul 2022	Weather	Overcast
140	11 Jul 2022	Visibility (mi)	5
140	11 Jul 2022	Wind Speed (kts)	7.6
140	11 Jul 2022	Wind Dir	SW
140	11 Jul 2022	Water Color	Green
140	11 Jul 2022	Wave Ht Low (ft)	3
140	11 Jul 2022	Wave Period (sec)	6
140	11 Jul 2022	Sea State	Calm
140	11 Jul 2022	High Tide (ft)	6.82
140	11 Jul 2022	High Tide Time	242
140	11 Jul 2022	Low Tide (ft)	-0.82

Station	Date	Parameter	Value
I40	11 Jul 2022	Low Tide Time	924
I40	11 Jul 2022	Comments	none
I40	20 Jul 2022	Depth (m)	10
I40	20 Jul 2022	Arrive Time	1227
I40	20 Jul 2022	Depart Time	1231
I40	20 Jul 2022	Air Temp (C)	20.2
I40	20 Jul 2022	Weather	Partly Cloudy
I40	20 Jul 2022	Visibility (mi)	8
I40	20 Jul 2022	Wind Speed (kts)	6.7
I40	20 Jul 2022	Wind Dir	SW
I40	20 Jul 2022	Water Color	Greenish-Brown
I40	20 Jul 2022	Wave Ht Low (ft)	4
I40	20 Jul 2022	Wave Period (sec)	15
I40	20 Jul 2022	Sea State	Regular Swell
I40	20 Jul 2022	High Tide (ft)	4.95
I40	20 Jul 2022	High Tide Time	2312
I40	20 Jul 2022	Low Tide (ft)	1.44
I40	20 Jul 2022	Low Tide Time	1606
I40	20 Jul 2022	Comments	none
I40	25 Jul 2022	Depth (m)	10
I40	25 Jul 2022	Arrive Time	1120
I40	25 Jul 2022	Depart Time	1125
I40	25 Jul 2022	Air Temp (C)	19.6
I40	25 Jul 2022	Weather	Partly Cloudy
I40	25 Jul 2022	Visibility (mi)	10
I40	25 Jul 2022	Wind Speed (kts)	8.8
I40	25 Jul 2022	Wind Dir	W
I40	25 Jul 2022	Water Color	Greenish-Blue
I40	25 Jul 2022	Wave Ht Low (ft)	3.3
I40	25 Jul 2022	Wave Period (sec)	6
I40	25 Jul 2022	Sea State	Regular Swell
I40	25 Jul 2022	High Tide (ft)	5.78
I40	25 Jul 2022	High Tide Time	248
I40	25 Jul 2022	Low Tide (ft)	-0.09
I40	25 Jul 2022	Low Tide Time	942
I40	25 Jul 2022	Comments	none

Table 3.9

Summary of CTD profile data from the SBOO kelp stations for each sample date.

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I19	05 Jul 2022	1	20.02	71.45	9.4	33.58	8.3	23.7	1.23
I19	05 Jul 2022	2	19.95	71.26	9.3	33.58	8.3	23.7	1.34
I19	05 Jul 2022	3	19.80	70.46	9.2	33.57	8.3	23.7	1.66
I19	05 Jul 2022	4	19.54	68.80	8.8	33.57	8.3	23.8	2.29
I19	05 Jul 2022	5	19.10	66.61	8.1	33.55	8.3	23.9	3.64
I19	05 Jul 2022	6	17.41	60.24	7.8	33.43	8.3	24.2	6.44
I19	05 Jul 2022	7	14.99	58.39	7.8	33.49	8.3	24.8	7.83
I19	05 Jul 2022	8	13.98	60.56	7.1	33.45	8.2	25.0	8.42
I19	05 Jul 2022	9	13.32	59.93	6.6	33.46	8.2	25.1	8.53
I19	05 Jul 2022	10	13.05	59.20	6.4	33.47	8.1	25.2	10.20
I19	11 Jul 2022	1	15.89	63.46	8.4	33.52	8.1	24.6	2.67
I19	11 Jul 2022	2	15.59	64.79	8.2	33.50	8.1	24.7	3.81
I19	11 Jul 2022	3	14.91	56.49	8.2	33.51	8.1	24.8	8.14
I19	11 Jul 2022	4	14.75	48.72	8.2	33.50	8.1	24.9	17.34
I19	11 Jul 2022	5	13.86	47.62	8.3	33.49	8.1	25.0	25.72
I19	11 Jul 2022	6	13.36	56.14	7.6	33.49	8.1	25.2	22.39
I19	11 Jul 2022	7	13.11	65.32	6.7	33.50	8.1	25.2	14.54
I19	11 Jul 2022	8	13.06	71.55	6.1	33.50	8.0	25.2	10.49
I19	11 Jul 2022	9	12.93	71.93	5.5	33.51	8.0	25.2	8.99
I19	11 Jul 2022	10	12.89	70.46	5.0	33.51	7.9	25.3	7.97
I19	20 Jul 2022	1	18.71	71.39	10.3	33.42	8.3	23.9	1.52
I19	20 Jul 2022	2	18.24	66.80	10.2	33.41	8.3	24.0	2.60
I19	20 Jul 2022	3	17.87	60.36	9.8	33.41	8.3	24.1	5.14
I19	20 Jul 2022	4	17.58	54.32	9.6	33.42	8.3	24.2	7.81
I19	20 Jul 2022	5	17.47	52.89	9.6	33.42	8.3	24.2	10.67
I19	20 Jul 2022	6	17.43	58.34	9.2	33.42	8.3	24.2	9.74
I19	20 Jul 2022	7	17.18	62.90	8.7	33.41	8.2	24.2	7.28
I19	20 Jul 2022	8	16.76	67.08	8.4	33.44	8.2	24.4	5.15
I19	20 Jul 2022	9	16.42	68.67	8.2	33.46	8.2	24.5	3.62
I19	20 Jul 2022	10	16.39	64.05	8.2	33.46	8.2	24.5	3.01
I19	25 Jul 2022	1	20.91	64.30	9.7	33.55	8.3	23.4	4.60
I19	25 Jul 2022	2	20.91	64.57	9.6	33.55	8.3	23.4	4.64
I19	25 Jul 2022	3	20.65	61.44	9.3	33.55	8.3	23.5	8.33
I19	25 Jul 2022	4	20.53	55.89	9.1	33.54	8.3	23.5	13.75
I19	25 Jul 2022	5	20.18	55.09	8.3	33.52	8.3	23.6	17.68
I19	25 Jul 2022	6	18.21	58.56	7.5	33.48	8.2	24.1	16.65
I19	25 Jul 2022	7	17.63	69.76	7.3	33.46	8.1	24.2	11.75
I19	25 Jul 2022	8	16.39	75.68	7.1	33.47	8.1	24.5	7.58
I19	25 Jul 2022	9	15.81	69.97	6.3	33.46	8.1	24.6	5.74
I19	25 Jul 2022	10	15.11	61.47	5.8	33.48	8.0	24.8	6.09
I24	05 Jul 2022	2	19.66	74.35	10.0	33.58	8.3	23.8	1.05
I24	05 Jul 2022	3	19.58	74.35	10.0	33.57	8.3	23.8	1.14
I24	05 Jul 2022	4	19.31	74.08	9.7	33.56	8.3	23.8	1.40
I24	05 Jul 2022	5	18.93	71.95	9.6	33.54	8.3	23.9	1.83
I24	05 Jul 2022	6	18.15	68.37	9.5	33.54	8.3	24.1	4.47
I24	05 Jul 2022	7	17.32	58.38	8.5	33.48	8.3	24.3	10.95
I24	05 Jul 2022	8	14.66	66.16	7.8	33.47	8.2	24.9	10.02
I24	05 Jul 2022	9	13.49	75.99	7.2	33.45	8.2	25.1	7.41
I24	11 Jul 2022	1	16.66	64.30	8.7	33.52	8.2	24.5	2.60
I24	11 Jul 2022	2	15.55	62.08	9.3	33.52	8.2	24.7	4.18

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I24	11 Jul 2022	3	15.05	36.36	10.1	33.50	8.2	24.8	12.93
I24	11 Jul 2022	4	14.31	35.21	9.4	33.49	8.2	25.0	25.70
I24	11 Jul 2022	5	13.16	44.61	7.5	33.49	8.2	25.2	30.66
I24	11 Jul 2022	6	12.77	60.37	5.6	33.50	8.1	25.3	21.40
I24	11 Jul 2022	7	12.76	71.01	5.0	33.51	8.0	25.3	13.19
I24	11 Jul 2022	8	12.74	72.21	4.8	33.51	7.9	25.3	9.18
I24	11 Jul 2022	9	12.71	71.44	4.7	33.51	7.9	25.3	8.00
I24	11 Jul 2022	10	12.70	71.43	4.5	33.52	7.9	25.3	6.67
I24	20 Jul 2022	1	19.27	67.81	11.6	33.46	8.4	23.8	1.86
I24	20 Jul 2022	2	18.89	67.11	11.5	33.45	8.4	23.9	2.22
I24	20 Jul 2022	3	18.35	62.96	11.3	33.46	8.4	24.0	3.90
I24	20 Jul 2022	4	17.91	55.55	10.7	33.46	8.4	24.1	7.83
I24	20 Jul 2022	5	17.63	52.44	9.9	33.45	8.3	24.2	12.87
I24	20 Jul 2022	6	17.14	49.36	9.3	33.45	8.3	24.3	12.09
I24	20 Jul 2022	7	16.86	57.95	8.8	33.44	8.3	24.4	9.01
I24	20 Jul 2022	8	16.33	67.05	8.4	33.46	8.2	24.5	6.30
I24	20 Jul 2022	9	15.63	71.18	7.6	33.42	8.2	24.6	4.66
I24	20 Jul 2022	10	14.86	69.01	7.0	33.48	8.1	24.8	3.23
I24	25 Jul 2022	1	20.90	82.35	9.3	33.56	8.3	23.4	0.73
I24	25 Jul 2022	2	20.86	82.34	9.4	33.56	8.3	23.4	0.76
I24	25 Jul 2022	3	20.84	82.01	9.4	33.55	8.3	23.4	0.86
I24	25 Jul 2022	4	20.79	81.61	9.4	33.55	8.3	23.4	1.00
I24	25 Jul 2022	5	20.45	79.94	9.5	33.53	8.3	23.5	1.30
I24	25 Jul 2022	6	19.78	75.68	8.9	33.48	8.3	23.7	1.92
I24	25 Jul 2022	7	17.62	74.87	8.7	33.49	8.2	24.2	2.36
I24	25 Jul 2022	8	17.18	74.77	8.4	33.46	8.2	24.3	2.70
I24	25 Jul 2022	9	16.43	71.84	7.9	33.48	8.1	24.5	3.62
I24	25 Jul 2022	10	15.74	70.33	7.3	33.47	8.1	24.6	4.59
I25	05 Jul 2022	1	19.64	73.35	10.0	33.58	8.3	23.8	1.18
I25	05 Jul 2022	2	19.61	73.35	10.1	33.57	8.3	23.8	1.23
I25	05 Jul 2022	3	19.27	72.70	10.2	33.57	8.3	23.9	1.77
I25	05 Jul 2022	4	18.93	64.18	9.7	33.56	8.3	23.9	3.93
I25	05 Jul 2022	5	18.58	58.77	8.9	33.54	8.3	24.0	6.13
I25	05 Jul 2022	6	16.85	60.26	8.5	33.45	8.3	24.4	8.21
I25	05 Jul 2022	7	14.32	63.67	7.6	33.47	8.2	24.9	8.96
I25	05 Jul 2022	8	13.69	75.79	6.9	33.48	8.2	25.1	5.16
I25	05 Jul 2022	9	13.68	82.27	6.9	33.48	8.1	25.1	3.22
I25	11 Jul 2022	1	17.97	74.00	9.1	33.54	8.2	24.2	1.20
I25	11 Jul 2022	2	17.86	73.88	9.0	33.54	8.3	24.2	1.26
I25	11 Jul 2022	3	16.57	72.47	9.1	33.52	8.3	24.5	1.69
I25	11 Jul 2022	4	14.87	70.60	9.8	33.53	8.3	24.9	2.34
I25	11 Jul 2022	5	14.47	68.39	9.9	33.50	8.3	24.9	3.87
I25	11 Jul 2022	6	14.17	38.14	9.3	33.48	8.2	25.0	15.92
I25	11 Jul 2022	7	12.86	37.39	6.4	33.51	8.2	25.3	23.88
I25	11 Jul 2022	8	12.86	67.63	5.2	33.50	8.1	25.3	14.60
I25	11 Jul 2022	9	12.76	73.38	4.9	33.51	8.0	25.3	11.69
I25	20 Jul 2022	1	19.03	66.79	11.3	33.44	8.4	23.8	1.89
I25	20 Jul 2022	2	18.25	66.01	11.1	33.46	8.4	24.0	2.21
I25	20 Jul 2022	3	18.01	60.39	10.9	33.46	8.3	24.1	3.73
I25	20 Jul 2022	4	17.72	49.93	10.5	33.46	8.3	24.2	8.98
I25	20 Jul 2022	5	17.50	48.98	10.0	33.46	8.3	24.2	12.92
I25	20 Jul 2022	6	16.85	53.39	9.1	33.43	8.3	24.3	11.96
I25	20 Jul 2022	7	16.35	62.96	8.5	33.47	8.2	24.5	7.51
I25	20 Jul 2022	8	15.85	66.17	8.0	33.46	8.2	24.6	5.56
I25	20 Jul 2022	9	15.70	66.38	7.7	33.47	8.1	24.6	4.08

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I25	25 Jul 2022	1	21.02	82.08	9.0	33.56	8.3	23.4	0.69
I25	25 Jul 2022	2	20.98	82.04	9.0	33.56	8.3	23.4	0.75
I25	25 Jul 2022	3	20.93	82.10	9.0	33.56	8.3	23.4	0.81
I25	25 Jul 2022	4	20.85	82.01	9.1	33.56	8.3	23.4	0.95
I25	25 Jul 2022	5	20.75	81.73	9.2	33.55	8.3	23.5	1.11
I25	25 Jul 2022	6	20.59	81.17	9.3	33.55	8.3	23.5	1.31
I25	25 Jul 2022	7	20.35	79.62	8.8	33.53	8.3	23.6	1.63
I25	25 Jul 2022	8	17.54	72.99	7.3	33.50	8.2	24.2	2.13
I26	05 Jul 2022	1	19.89	73.71	9.9	33.59	8.3	23.7	0.94
I26	05 Jul 2022	2	19.91	68.81	9.9	33.59	8.3	23.7	0.92
I26	05 Jul 2022	3	19.74	65.70	9.9	33.57	8.3	23.7	1.03
I26	05 Jul 2022	4	19.35	69.18	10.0	33.57	8.3	23.8	1.29
I26	05 Jul 2022	5	19.08	71.11	10.1	33.55	8.3	23.9	1.69
I26	05 Jul 2022	6	18.46	72.61	9.9	33.55	8.3	24.0	2.16
I26	05 Jul 2022	7	17.93	71.57	8.6	33.49	8.3	24.1	2.60
I26	05 Jul 2022	8	14.84	65.75	7.5	33.43	8.2	24.8	3.90
I26	05 Jul 2022	9	13.37	63.32	7.2	33.49	8.2	25.2	6.89
I26	11 Jul 2022	1	17.97	76.46	9.3	33.55	8.3	24.2	1.13
I26	11 Jul 2022	2	17.89	76.05	9.1	33.55	8.3	24.2	1.17
I26	11 Jul 2022	3	17.36	75.40	8.7	33.51	8.3	24.3	1.54
I26	11 Jul 2022	4	15.19	68.30	9.2	33.52	8.3	24.8	2.48
I26	11 Jul 2022	5	14.20	73.55	9.5	33.51	8.2	25.0	2.89
I26	11 Jul 2022	6	13.56	70.08	9.3	33.49	8.2	25.1	6.16
I26	11 Jul 2022	7	13.37	43.73	8.1	33.49	8.2	25.1	23.65
I26	11 Jul 2022	8	13.21	57.24	7.1	33.50	8.1	25.2	23.37
I26	11 Jul 2022	9	13.00	78.79	6.8	33.51	8.1	25.2	13.27
I26	20 Jul 2022	1	17.90	66.25	9.4	33.47	8.3	24.1	2.36
I26	20 Jul 2022	2	17.07	65.53	8.8	33.42	8.2	24.3	2.61
I26	20 Jul 2022	3	16.60	59.31	8.2	33.47	8.2	24.4	3.33
I26	20 Jul 2022	4	16.55	60.10	8.0	33.46	8.2	24.4	3.92
I26	20 Jul 2022	5	16.47	61.08	7.7	33.46	8.2	24.5	4.07
I26	20 Jul 2022	6	16.39	62.73	7.1	33.45	8.1	24.5	3.53
I26	20 Jul 2022	7	15.91	62.89	6.3	33.46	8.1	24.6	2.67
I26	20 Jul 2022	8	15.92	62.97	6.0	33.45	8.0	24.6	2.31
I26	20 Jul 2022	9	15.29	63.26	5.5	33.47	8.0	24.7	2.12
I26	25 Jul 2022	1	21.13	80.73	8.9	33.56	8.3	23.4	0.86
I26	25 Jul 2022	2	21.12	80.66	8.9	33.56	8.3	23.4	0.89
I26	25 Jul 2022	3	21.07	80.47	8.9	33.56	8.3	23.4	0.99
I26	25 Jul 2022	4	21.05	80.14	8.9	33.56	8.3	23.4	1.15
I26	25 Jul 2022	5	21.03	79.74	8.9	33.56	8.3	23.4	1.29
I26	25 Jul 2022	6	20.92	78.62	9.0	33.56	8.3	23.4	1.71
I26	25 Jul 2022	7	20.75	75.67	9.0	33.55	8.3	23.5	2.33
I26	25 Jul 2022	8	20.10	68.08	9.0	33.53	8.3	23.6	4.35
I26	25 Jul 2022	9	17.77	69.54	8.6	33.51	8.2	24.2	5.13
I32	05 Jul 2022	1	19.80	70.63	9.8	33.58	8.3	23.7	1.23
I32	05 Jul 2022	2	19.75	70.54	9.8	33.58	8.3	23.7	1.25
I32	05 Jul 2022	3	19.67	70.12	9.6	33.58	8.3	23.8	1.59
I32	05 Jul 2022	4	19.54	68.90	9.1	33.57	8.3	23.8	2.13
I32	05 Jul 2022	5	19.00	66.01	8.5	33.56	8.3	23.9	3.24
I32	05 Jul 2022	6	18.16	62.00	7.3	33.51	8.3	24.1	4.94
I32	05 Jul 2022	7	14.93	57.71	6.6	33.46	8.2	24.8	6.72
I32	05 Jul 2022	8	13.69	56.77	6.4	33.47	8.2	25.1	8.62
I32	05 Jul 2022	9	13.35	58.84	6.2	33.48	8.1	25.1	11.54
I32	05 Jul 2022	10	13.34	60.78	6.2	33.47	8.0	25.1	14.01
I32	11 Jul 2022	1	18.19	73.87	7.5	33.48	8.3	24.1	1.09

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I32	11 Jul 2022	2	18.10	73.70	8.7	33.58	8.3	24.2	1.09
I32	11 Jul 2022	3	17.74	72.90	9.0	33.63	8.3	24.3	1.18
I32	11 Jul 2022	4	17.47	72.73	9.1	33.59	8.3	24.3	1.63
I32	11 Jul 2022	5	17.03	72.99	8.8	33.66	8.2	24.5	1.59
I32	11 Jul 2022	6	15.57	63.38	8.5	34.01	8.2	25.1	1.60
I32	11 Jul 2022	7	14.78	57.13	8.2	33.97	8.2	25.2	1.70
I32	11 Jul 2022	8	13.67	53.35	8.1	33.95	8.2	25.4	1.91
I32	11 Jul 2022	9	13.65	67.35	8.4	33.73	8.2	25.3	3.66
I32	11 Jul 2022	10	12.89	69.67	7.7	33.70	8.1	25.4	10.50
I32	20 Jul 2022	1	18.29	43.53	9.6	33.45	8.3	24.0	11.25
I32	20 Jul 2022	2	18.10	45.35	9.0	33.45	8.3	24.1	10.73
I32	20 Jul 2022	3	17.61	50.67	8.2	33.44	8.2	24.2	9.15
I32	20 Jul 2022	4	17.10	57.63	8.1	33.46	8.2	24.3	6.82
I32	20 Jul 2022	5	16.99	66.49	8.2	33.46	8.2	24.3	5.40
I32	20 Jul 2022	6	16.86	70.42	8.2	33.46	8.2	24.4	4.58
I32	20 Jul 2022	7	16.69	72.88	8.2	33.45	8.2	24.4	3.92
I32	20 Jul 2022	8	16.51	73.71	7.7	33.46	8.2	24.4	3.58
I32	20 Jul 2022	9	15.90	72.53	6.6	33.40	8.1	24.5	3.83
I32	20 Jul 2022	10	14.43	66.94	5.8	33.46	8.0	24.9	5.01
I32	25 Jul 2022	1	21.24	75.80	9.3	33.55	8.3	23.3	1.57
I32	25 Jul 2022	2	21.24	75.90	9.2	33.55	8.3	23.3	1.59
I32	25 Jul 2022	3	21.22	75.89	9.2	33.56	8.3	23.3	1.72
I32	25 Jul 2022	4	21.19	76.05	9.0	33.56	8.3	23.3	1.95
I32	25 Jul 2022	5	21.16	76.21	8.8	33.56	8.3	23.4	2.13
I32	25 Jul 2022	6	21.13	76.19	8.6	33.56	8.3	23.4	2.44
I32	25 Jul 2022	7	21.02	76.30	8.5	33.56	8.3	23.4	2.70
I32	25 Jul 2022	8	20.98	76.30	8.5	33.55	8.3	23.4	3.03
I32	25 Jul 2022	9	20.52	75.89	8.4	33.54	8.3	23.5	3.31
I32	25 Jul 2022	10	20.34	72.01	8.3	33.53	8.2	23.5	4.44
I39	05 Jul 2022	1	19.27	74.95	10.4	33.59	8.3	23.9	1.28
I39	05 Jul 2022	2	19.27	75.08	10.4	33.59	8.3	23.9	1.38
I39	05 Jul 2022	3	19.17	74.09	10.5	33.58	8.3	23.9	1.83
I39	05 Jul 2022	4	19.13	71.98	10.5	33.58	8.3	23.9	2.49
I39	05 Jul 2022	5	19.11	70.43	10.5	33.58	8.3	23.9	3.26
I39	05 Jul 2022	6	18.98	69.35	10.6	33.57	8.3	23.9	4.42
I39	05 Jul 2022	7	18.67	65.64	10.8	33.56	8.3	24.0	8.02
I39	05 Jul 2022	8	18.03	52.75	10.8	33.54	8.3	24.1	12.49
I39	05 Jul 2022	9	17.20	53.61	10.6	33.46	8.3	24.3	13.48
I39	05 Jul 2022	10	15.23	61.00	10.8	33.47	8.3	24.7	11.25
I39	05 Jul 2022	11	14.55	70.19	9.8	33.48	8.3	24.9	9.64
I39	05 Jul 2022	12	14.34	67.41	8.5	33.49	8.2	24.9	13.12
I39	05 Jul 2022	13	14.07	68.29	7.8	33.47	8.2	25.0	13.45
I39	05 Jul 2022	14	13.43	70.87	7.4	33.44	8.1	25.1	11.77
I39	05 Jul 2022	15	12.64	74.99	6.6	33.48	8.1	25.3	9.65
I39	05 Jul 2022	16	12.53	80.91	5.8	33.49	8.0	25.3	8.35
I39	05 Jul 2022	17	12.28	86.92	5.4	33.51	8.0	25.4	5.47
I39	05 Jul 2022	18	12.26	87.90	5.2	33.52	8.0	25.4	2.91
I39	11 Jul 2022	1	17.99	80.38	9.7	33.58	8.3	24.2	1.02
I39	11 Jul 2022	2	17.87	80.19	9.7	33.57	8.3	24.2	1.12
I39	11 Jul 2022	3	17.61	79.97	9.8	33.57	8.3	24.3	1.18
I39	11 Jul 2022	4	16.85	80.35	10.1	33.55	8.3	24.4	1.22
I39	11 Jul 2022	5	15.83	80.90	10.0	33.50	8.3	24.6	1.34
I39	11 Jul 2022	6	13.88	82.52	10.4	33.50	8.3	25.1	1.47
I39	11 Jul 2022	7	13.47	83.01	10.3	33.49	8.3	25.1	2.30
I39	11 Jul 2022	8	13.17	79.72	9.6	33.48	8.2	25.2	4.06
I39	11 Jul 2022	9	12.99	77.57	9.0	33.47	8.2	25.2	6.09
I39	11 Jul 2022	10	12.90	76.96	8.4	33.48	8.2	25.2	7.69

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I39	11 Jul 2022	11	12.81	72.82	7.2	33.50	8.1	25.3	10.85
I39	11 Jul 2022	12	12.65	68.35	5.9	33.51	8.1	25.3	12.75
I39	11 Jul 2022	13	12.47	72.60	5.2	33.51	8.0	25.3	9.65
I39	11 Jul 2022	14	12.45	82.69	4.8	33.52	7.9	25.4	4.62
I39	11 Jul 2022	15	12.41	82.14	4.5	33.53	7.9	25.4	3.33
I39	11 Jul 2022	16	12.35	81.51	4.4	33.53	7.9	25.4	3.30
I39	11 Jul 2022	17	12.32	81.97	4.4	33.53	7.9	25.4	3.04
I39	11 Jul 2022	18	12.33	82.64	4.4	33.53	7.8	25.4	2.62
I39	20 Jul 2022	1	18.92	47.46	11.8	33.45	8.4	23.9	11.04
I39	20 Jul 2022	2	18.53	48.38	11.1	33.41	8.4	23.9	12.22
I39	20 Jul 2022	3	17.29	52.38	10.3	33.42	8.3	24.2	11.28
I39	20 Jul 2022	4	16.82	59.69	9.7	33.45	8.3	24.4	9.15
I39	20 Jul 2022	5	15.69	68.49	8.9	33.44	8.2	24.6	7.90
I39	20 Jul 2022	6	15.46	71.82	8.3	33.47	8.2	24.7	6.59
I39	20 Jul 2022	7	14.96	73.34	7.8	33.45	8.1	24.8	6.25
I39	20 Jul 2022	8	14.66	72.90	7.4	33.47	8.1	24.9	6.39
I39	20 Jul 2022	9	14.49	70.81	7.0	33.44	8.1	24.9	6.85
I39	20 Jul 2022	10	13.82	69.29	6.7	33.47	8.0	25.0	8.83
I39	20 Jul 2022	11	13.86	69.46	6.2	33.46	8.0	25.0	9.85
I39	20 Jul 2022	12	13.39	69.93	5.2	33.46	7.9	25.1	9.45
I39	20 Jul 2022	13	13.20	70.17	4.6	33.48	7.8	25.2	9.05
I39	20 Jul 2022	14	12.90	71.80	4.2	33.49	7.8	25.2	8.12
I39	20 Jul 2022	15	12.89	72.20	4.0	33.49	7.8	25.2	7.14
I39	20 Jul 2022	16	12.87	71.90	3.8	33.49	7.7	25.3	6.70
I39	20 Jul 2022	17	12.85	72.25	3.6	33.50	7.7	25.3	5.30
I39	20 Jul 2022	18	12.82	72.42	3.5	33.50	7.7	25.3	3.43
I39	25 Jul 2022	1	21.01	81.40	8.8	33.57	8.3	23.4	0.77
I39	25 Jul 2022	2	21.03	81.52	8.8	33.57	8.3	23.4	0.77
I39	25 Jul 2022	3	21.03	81.64	8.8	33.57	8.3	23.4	0.77
I39	25 Jul 2022	4	20.95	81.68	8.7	33.57	8.3	23.4	0.82
I39	25 Jul 2022	5	20.46	81.88	8.9	33.55	8.3	23.5	0.96
I39	25 Jul 2022	6	19.58	81.39	9.2	33.52	8.3	23.7	1.30
I39	25 Jul 2022	7	18.34	79.30	9.4	33.49	8.3	24.0	1.87
I39	25 Jul 2022	8	16.89	77.17	8.4	33.49	8.2	24.4	2.17
I39	25 Jul 2022	9	15.55	76.15	8.8	33.50	8.2	24.7	2.74
I39	25 Jul 2022	10	15.17	76.18	8.6	33.48	8.2	24.8	3.44
I39	25 Jul 2022	11	14.73	75.56	7.9	33.48	8.1	24.9	4.21
I39	25 Jul 2022	12	14.60	76.37	7.5	33.48	8.1	24.9	4.63
I39	25 Jul 2022	13	14.44	75.30	7.2	33.48	8.0	24.9	5.58
I39	25 Jul 2022	14	13.82	79.88	6.9	33.49	8.0	25.1	5.43
I39	25 Jul 2022	15	13.62	82.00	6.7	33.49	8.0	25.1	4.22
I39	25 Jul 2022	16	13.56	83.06	6.6	33.49	8.0	25.1	3.38
I39	25 Jul 2022	17	13.52	84.21	6.6	33.49	8.0	25.1	2.84
I39	25 Jul 2022	18	13.52	84.15	6.6	33.49	8.0	25.1	2.56
I40	05 Jul 2022	1	20.11	69.73	9.1	33.58	8.3	23.6	1.18
I40	05 Jul 2022	2	20.04	69.87	9.0	33.59	8.3	23.7	1.21
I40	05 Jul 2022	3	19.87	69.57	8.6	33.59	8.3	23.7	1.36
I40	05 Jul 2022	4	19.76	68.02	8.3	33.58	8.3	23.7	1.77
I40	05 Jul 2022	5	19.65	67.57	8.0	33.58	8.3	23.8	2.35
I40	05 Jul 2022	6	18.77	66.01	7.7	33.58	8.3	24.0	2.88
I40	05 Jul 2022	7	16.95	64.38	8.2	33.58	8.2	24.4	3.62
I40	05 Jul 2022	8	15.19	66.76	8.6	33.52	8.2	24.8	3.66
I40	05 Jul 2022	9	13.53	71.57	7.9	33.52	8.2	25.1	4.13
I40	05 Jul 2022	10	13.10	67.28	7.0	33.52	8.2	25.2	6.19
I40	11 Jul 2022	1	16.75	63.72	8.4	33.52	8.2	24.4	3.57
I40	11 Jul 2022	2	15.43	57.52	8.2	33.50	8.2	24.7	6.96
I40	11 Jul 2022	3	13.84	51.64	8.4	33.50	8.2	25.1	17.68

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ -t)	Chlor (μ g/L)
I40	11 Jul 2022	4	13.84	52.44	8.3	33.48	8.2	25.0	22.77
I40	11 Jul 2022	5	13.56	55.02	7.6	33.47	8.1	25.1	23.40
I40	11 Jul 2022	6	12.93	58.19	6.4	33.50	8.1	25.2	17.98
I40	11 Jul 2022	7	12.93	65.08	5.7	33.50	8.0	25.2	12.49
I40	11 Jul 2022	8	12.92	66.82	5.5	33.50	8.0	25.2	10.67
I40	11 Jul 2022	9	12.87	64.93	5.0	33.51	8.0	25.3	9.61
I40	11 Jul 2022	10	12.82	56.16	4.7	33.51	7.9	25.3	8.52
I40	20 Jul 2022	1	18.85	68.14	10.6	33.47	8.3	23.9	1.87
I40	20 Jul 2022	2	18.70	68.44	10.2	33.45	8.3	23.9	1.84
I40	20 Jul 2022	3	18.03	66.96	9.5	33.44	8.3	24.1	2.83
I40	20 Jul 2022	4	17.66	54.86	9.5	33.45	8.3	24.2	6.28
I40	20 Jul 2022	5	17.35	49.54	9.1	33.45	8.3	24.2	9.31
I40	20 Jul 2022	6	17.06	59.60	8.7	33.45	8.2	24.3	7.59
I40	20 Jul 2022	7	16.73	67.19	8.4	33.46	8.2	24.4	4.79
I40	20 Jul 2022	8	16.21	70.71	8.1	33.46	8.2	24.5	3.36
I40	20 Jul 2022	9	15.98	54.13	7.8	33.48	8.2	24.6	2.84
I40	20 Jul 2022	10	16.19	40.45	8.1	33.49	8.1	24.5	2.81
I40	25 Jul 2022	1	21.01	81.02	8.6	33.55	8.2	23.4	0.76
I40	25 Jul 2022	2	20.99	80.86	8.6	33.55	8.2	23.4	0.79
I40	25 Jul 2022	3	20.96	80.40	8.4	33.55	8.2	23.4	0.86
I40	25 Jul 2022	4	20.77	78.70	8.2	33.55	8.2	23.5	1.05
I40	25 Jul 2022	5	20.25	75.54	8.2	33.51	8.2	23.6	1.73
I40	25 Jul 2022	6	19.26	71.50	8.2	33.49	8.2	23.8	3.19
I40	25 Jul 2022	7	17.75	74.78	7.7	33.48	8.2	24.2	3.38
I40	25 Jul 2022	8	16.68	72.04	6.9	33.47	8.1	24.4	3.94
I40	25 Jul 2022	9	15.96	67.43	6.6	33.47	8.1	24.6	5.30
I40	25 Jul 2022	10	15.71	67.17	6.7	33.49	8.0	24.6	6.39

NA = not available

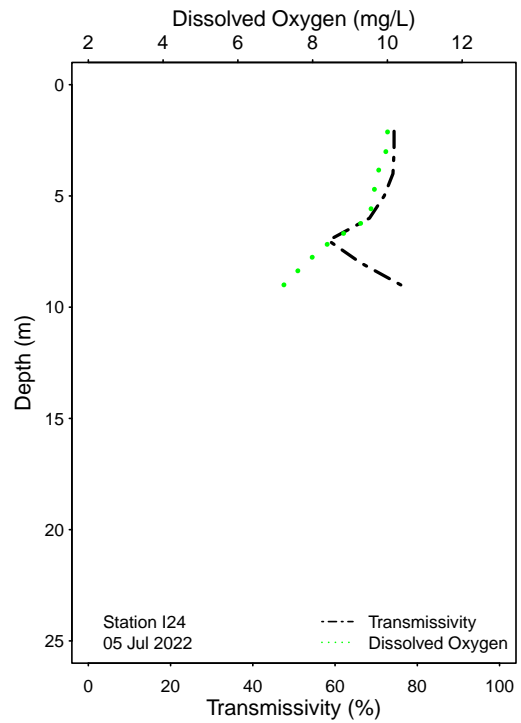
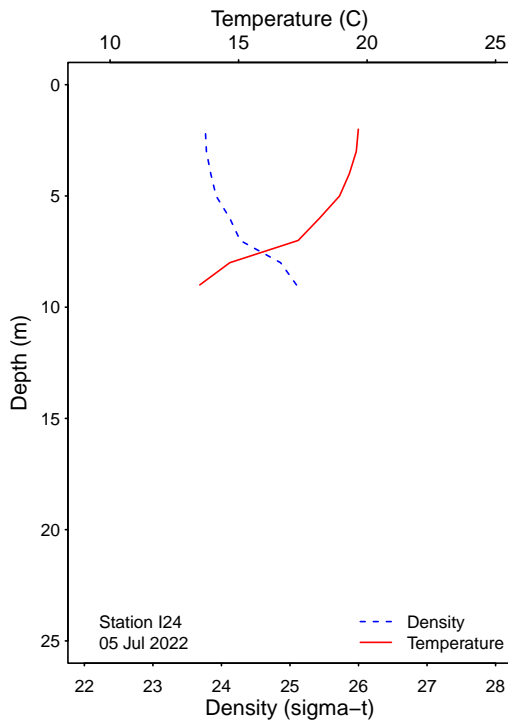
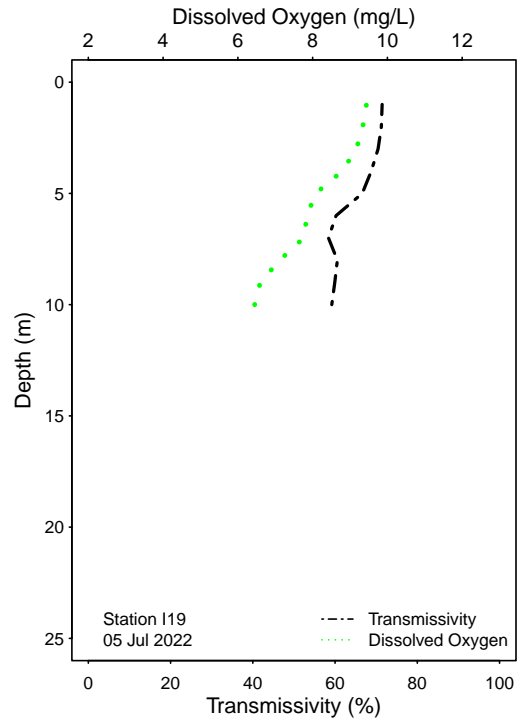
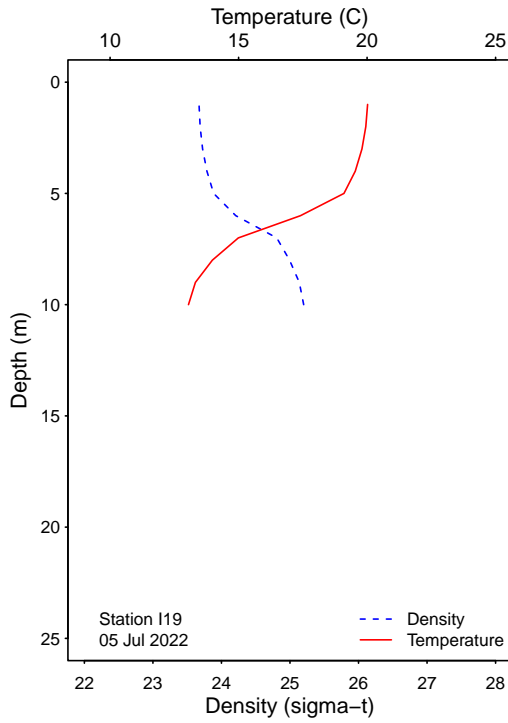


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

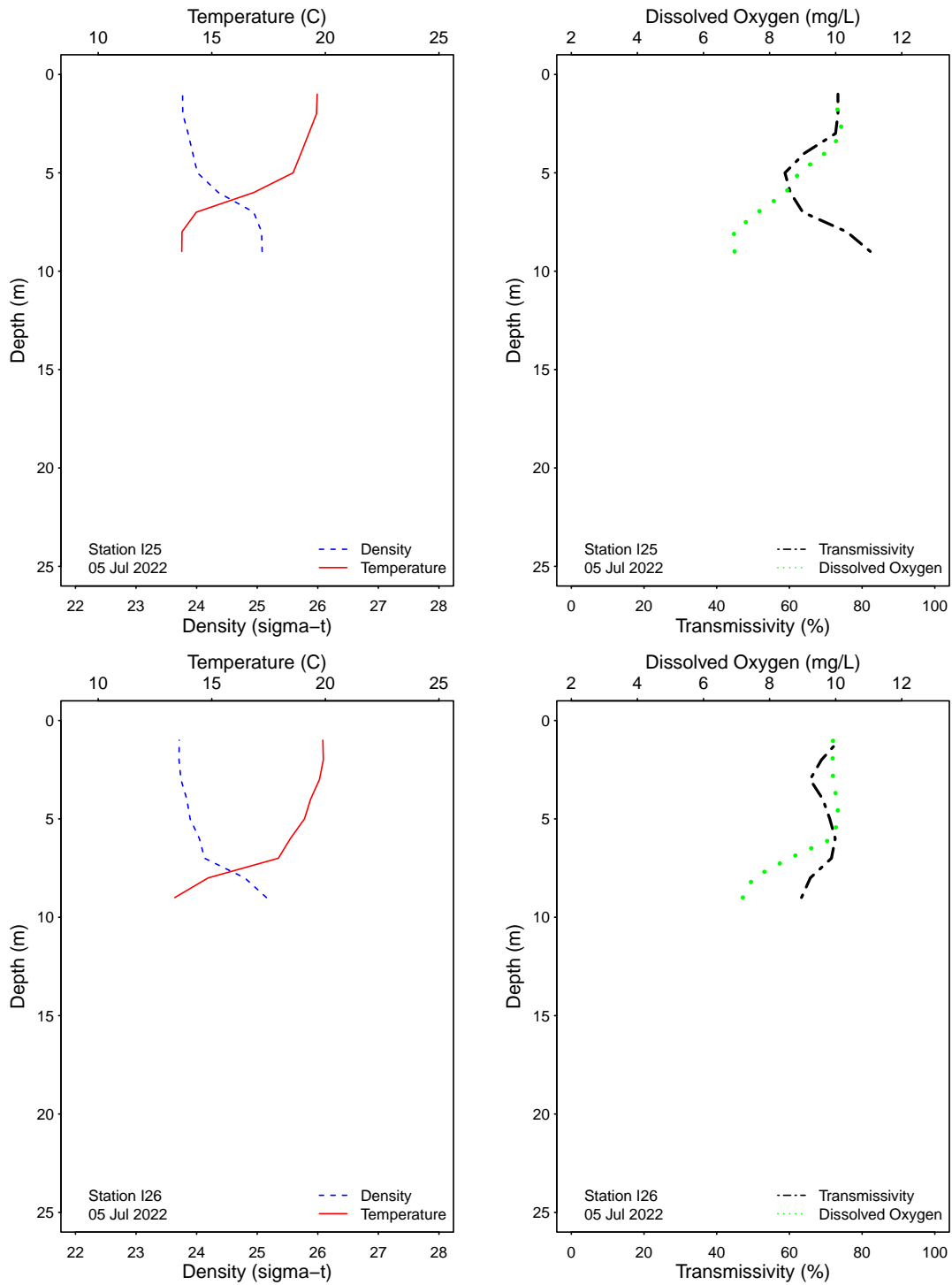


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

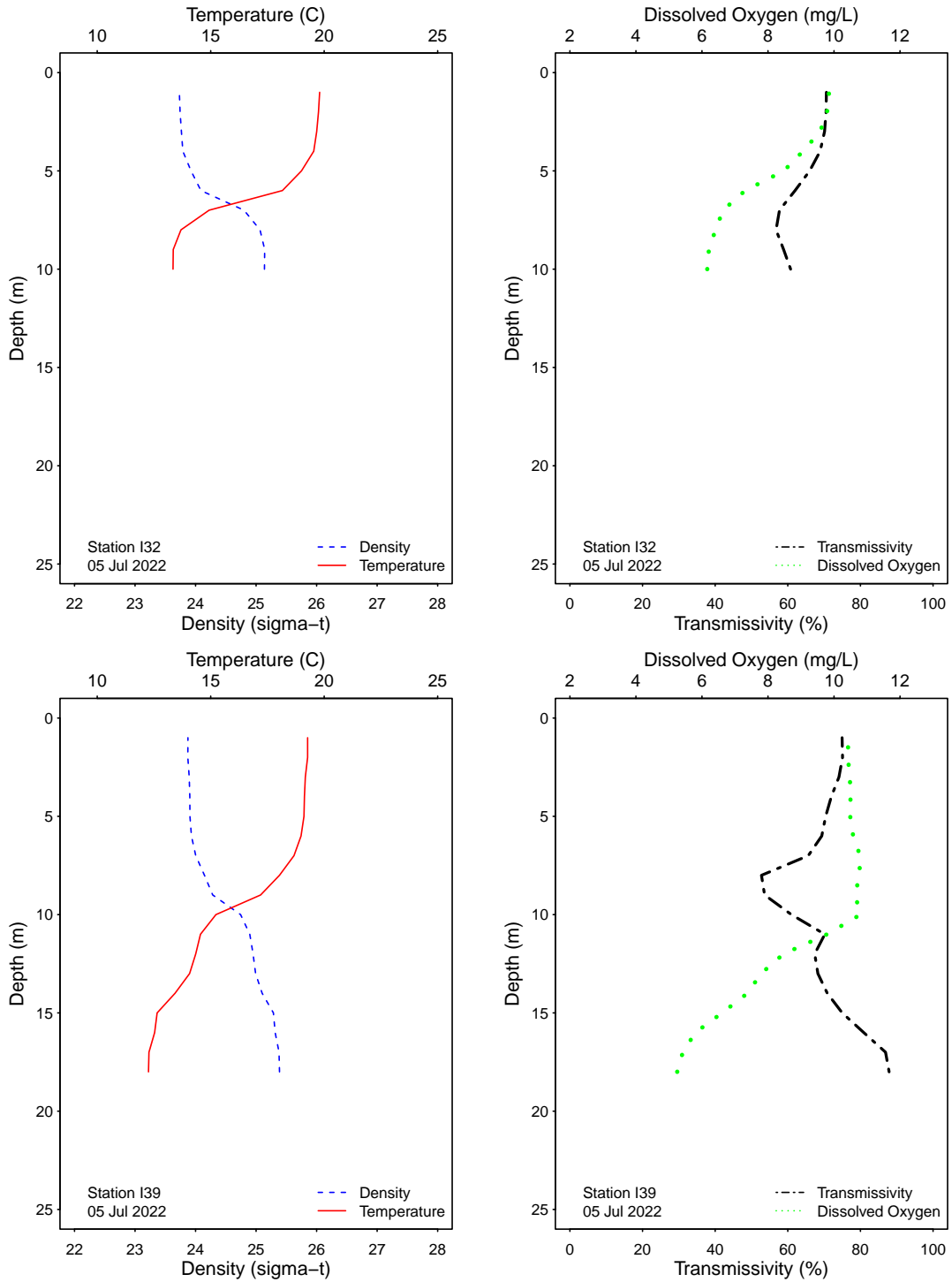


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

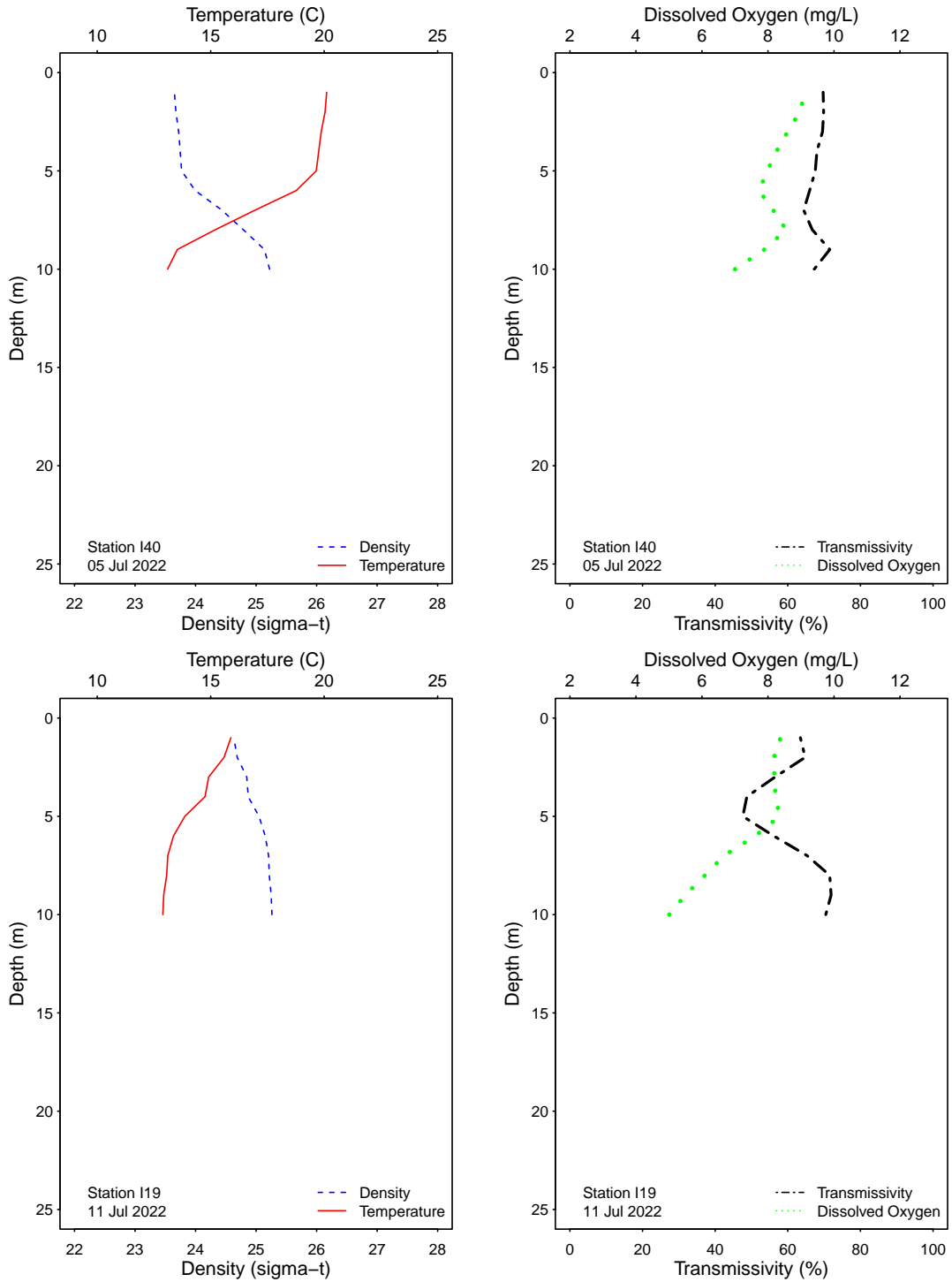


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

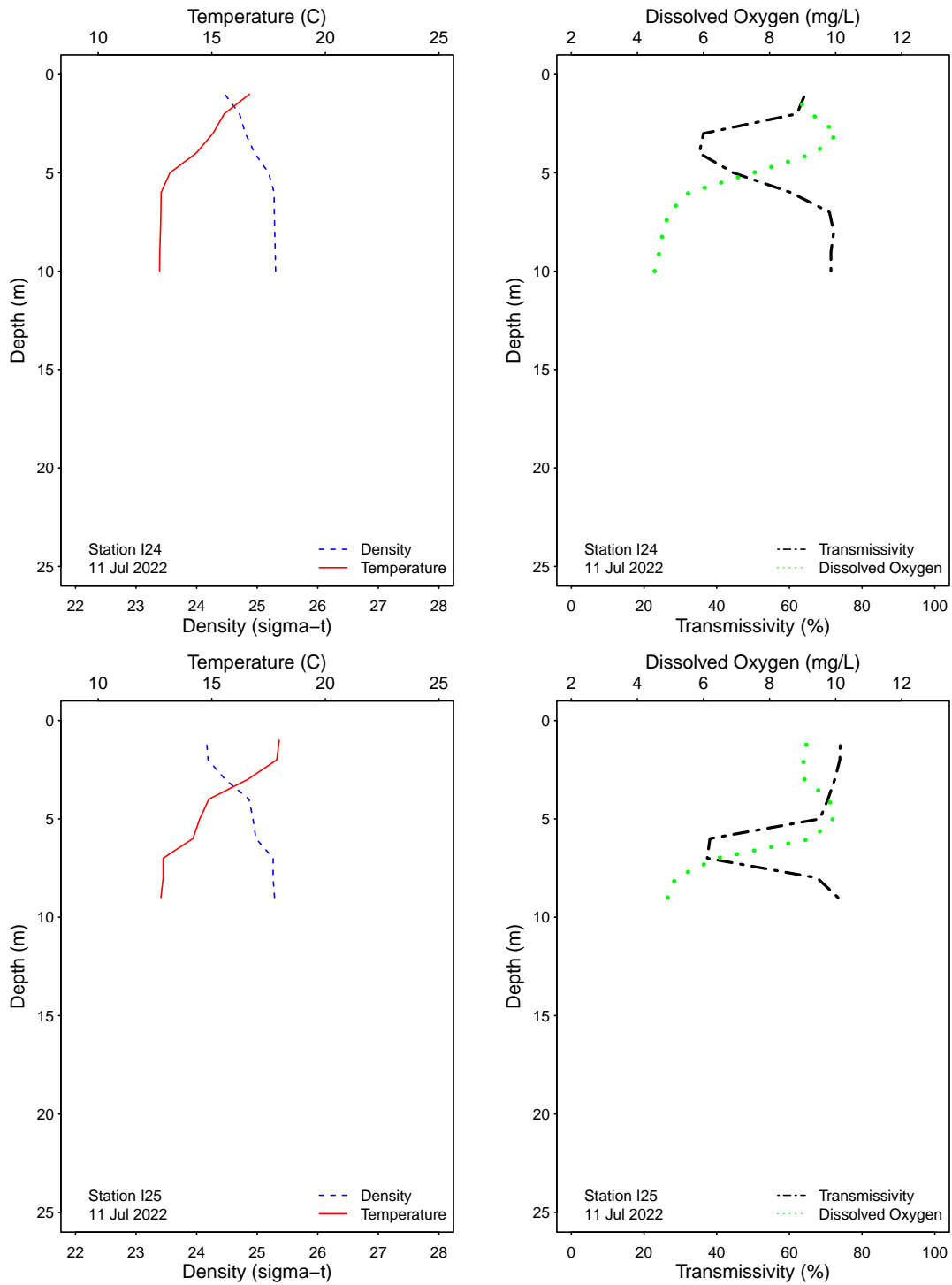


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

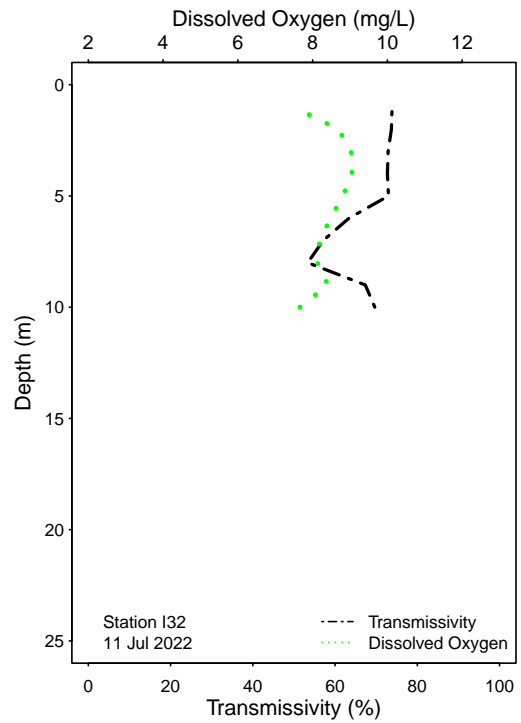
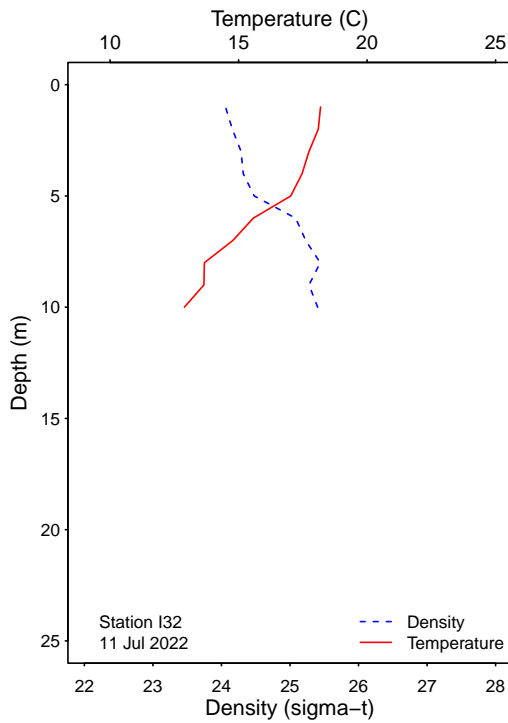
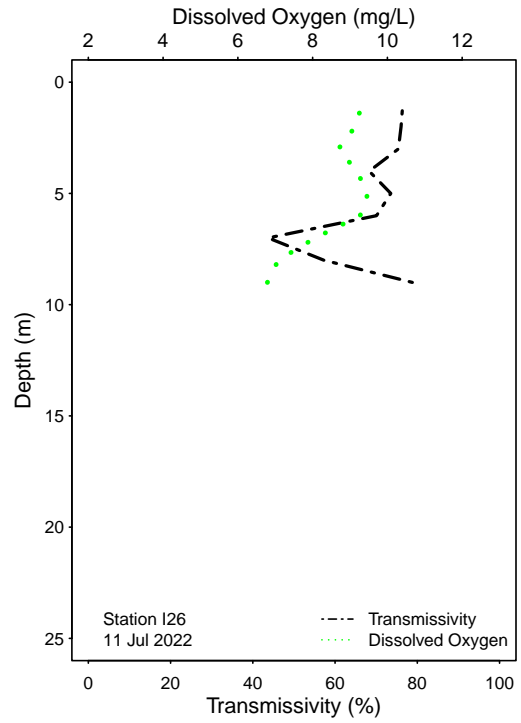
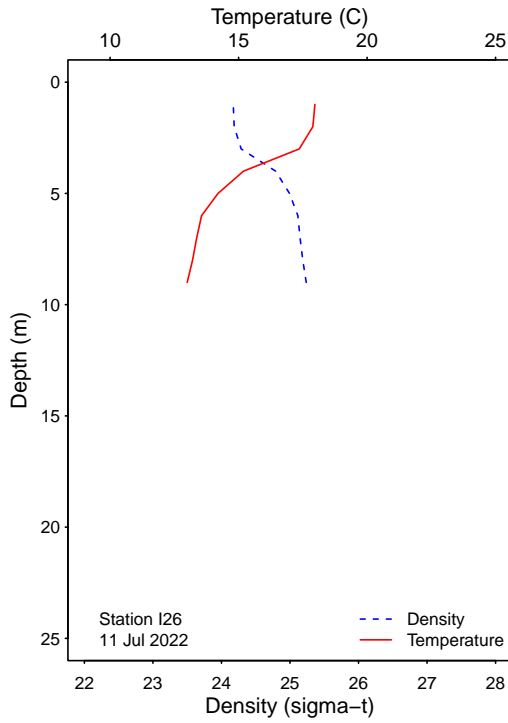


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

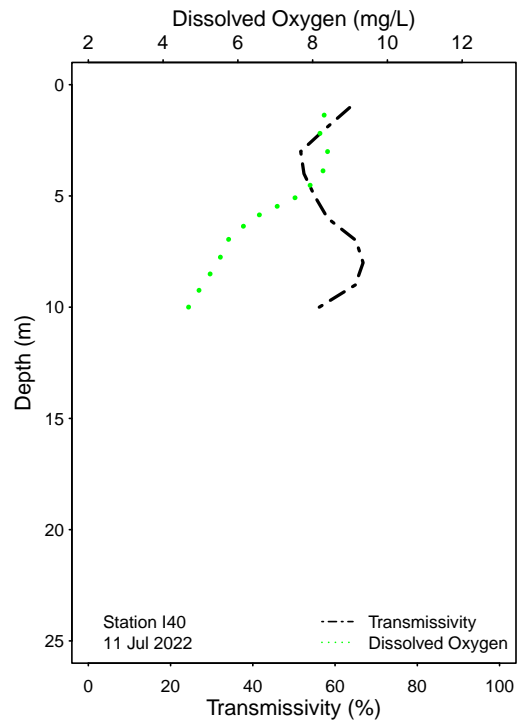
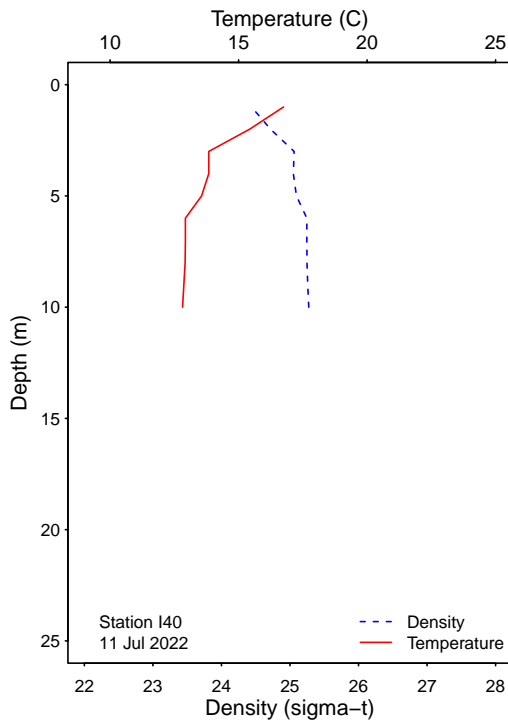
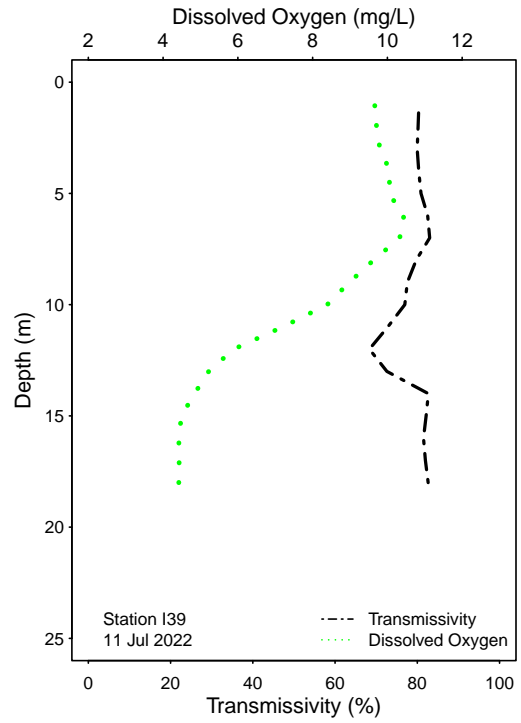
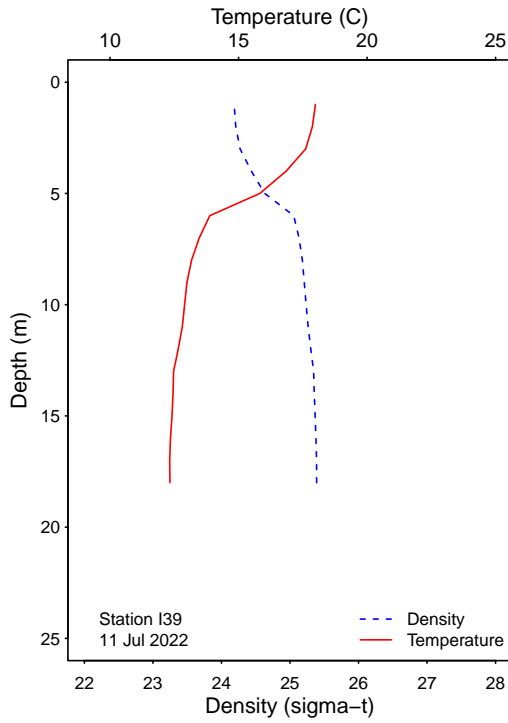


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

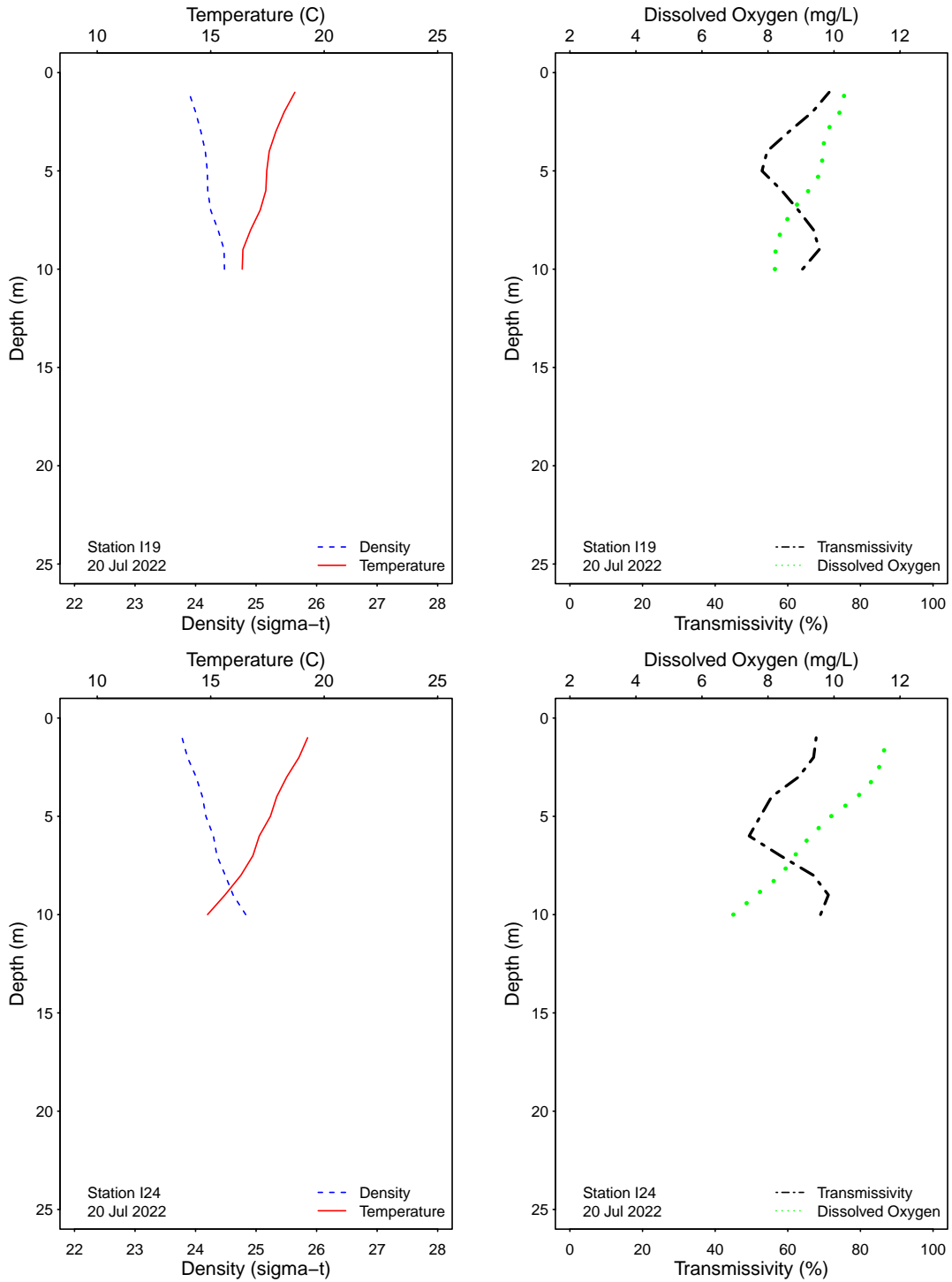


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

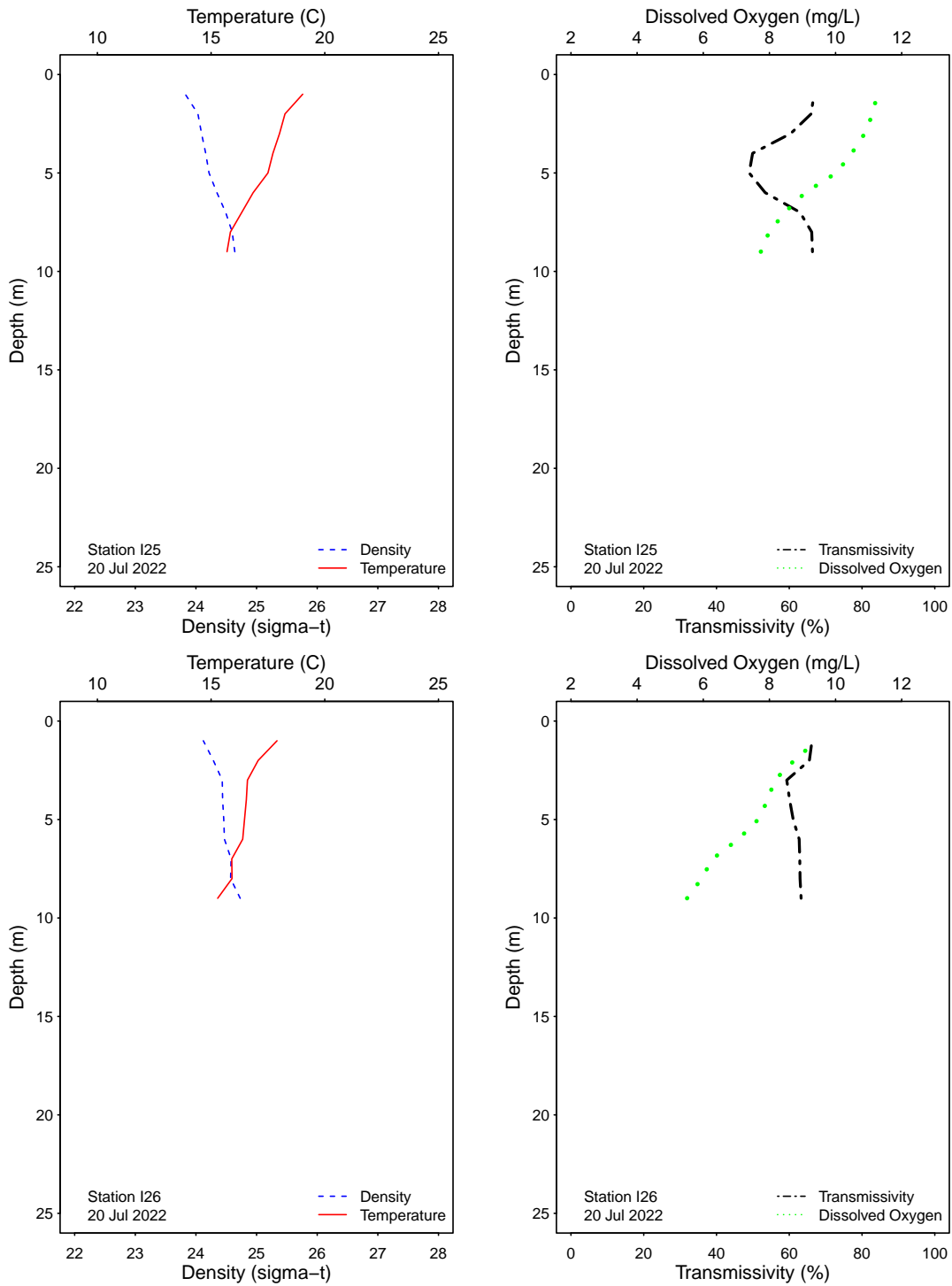


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

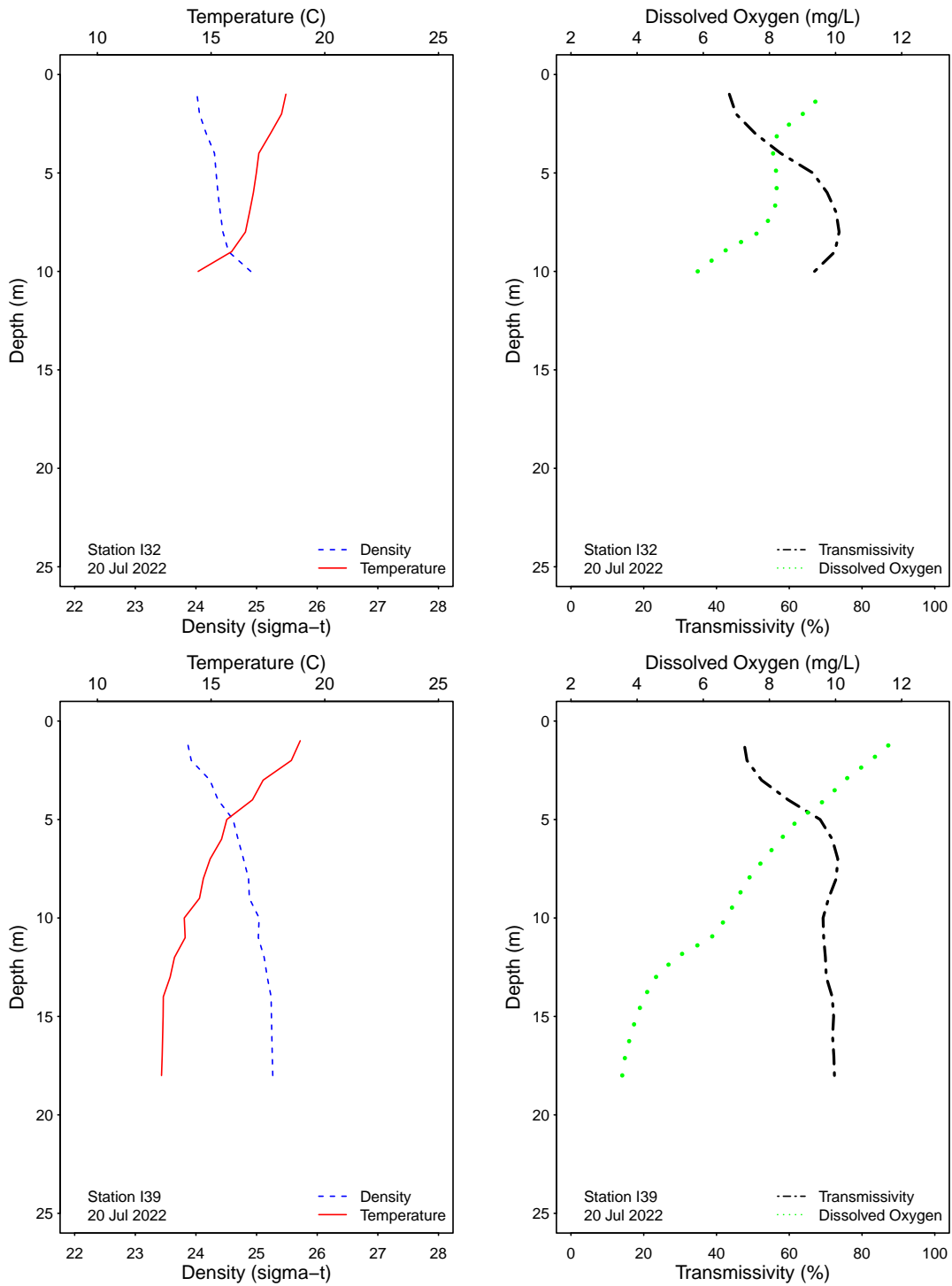


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

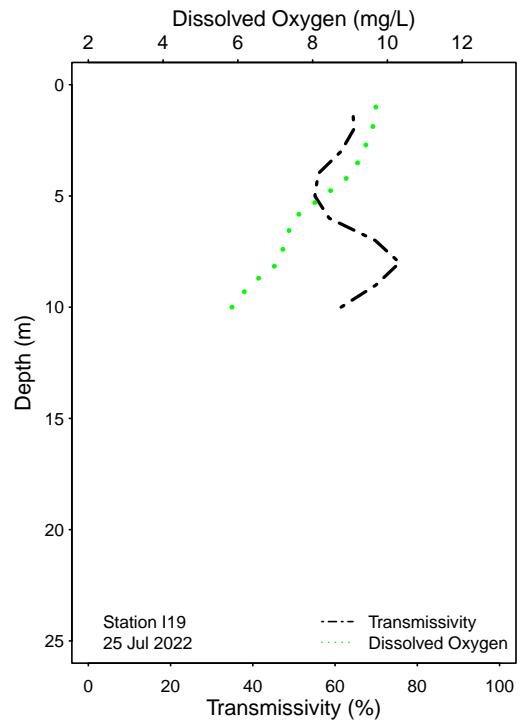
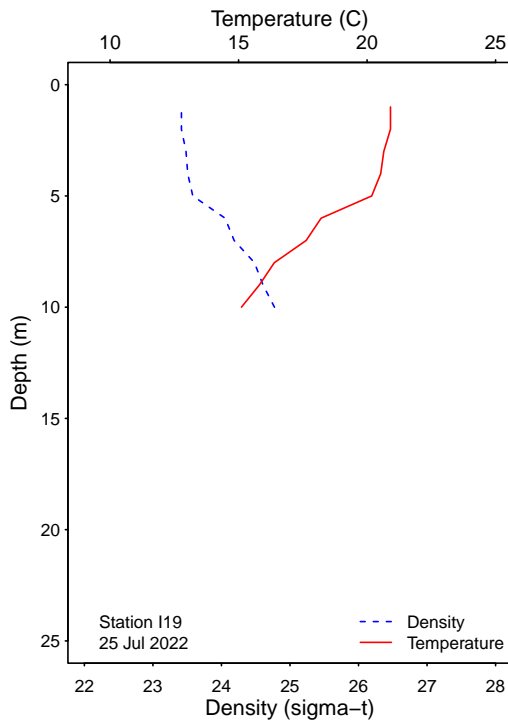
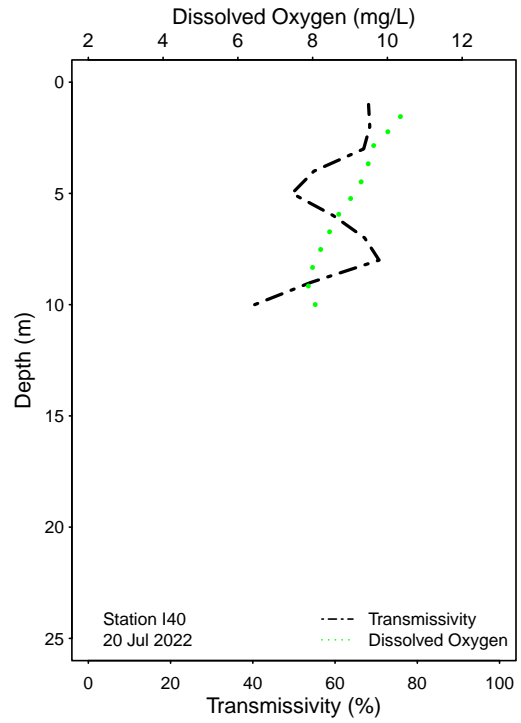
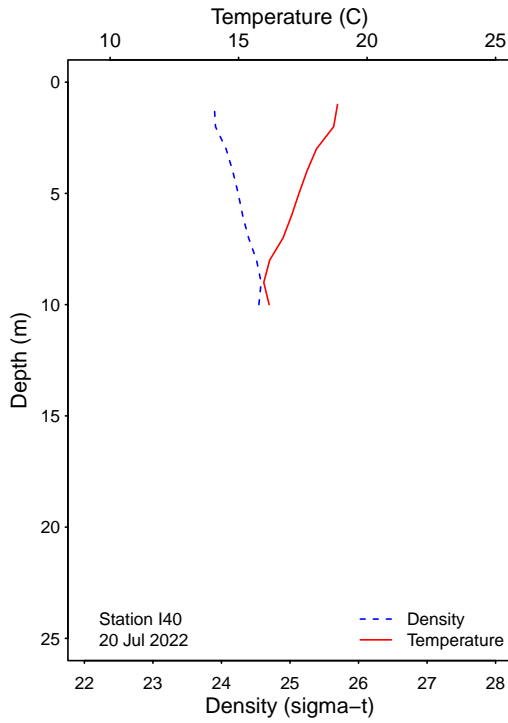


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

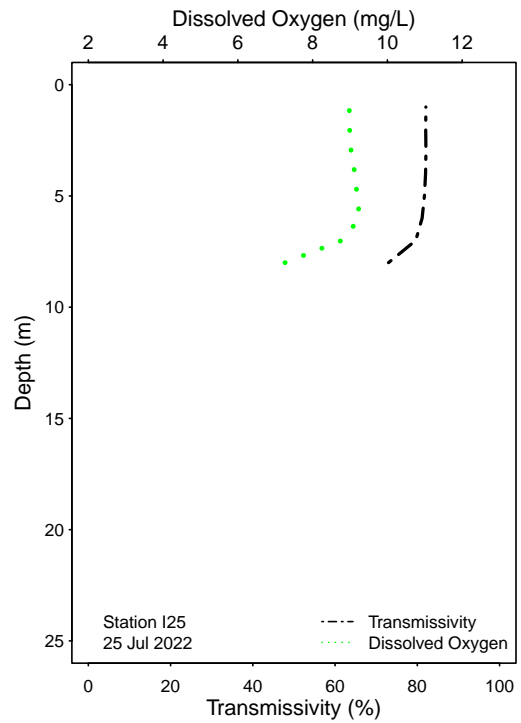
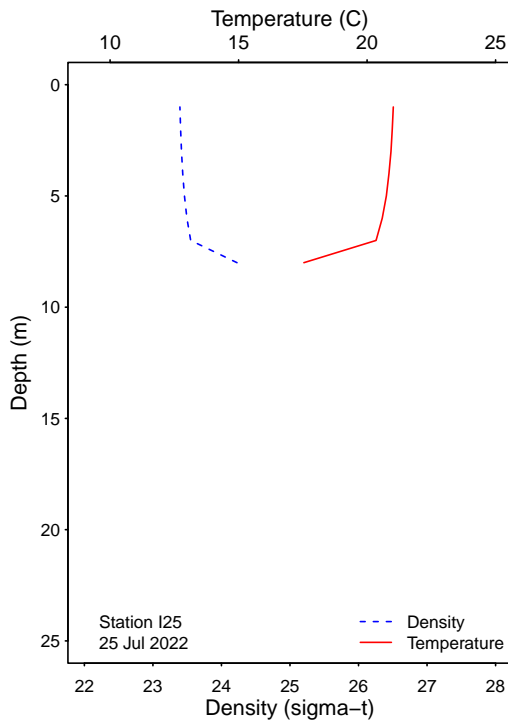
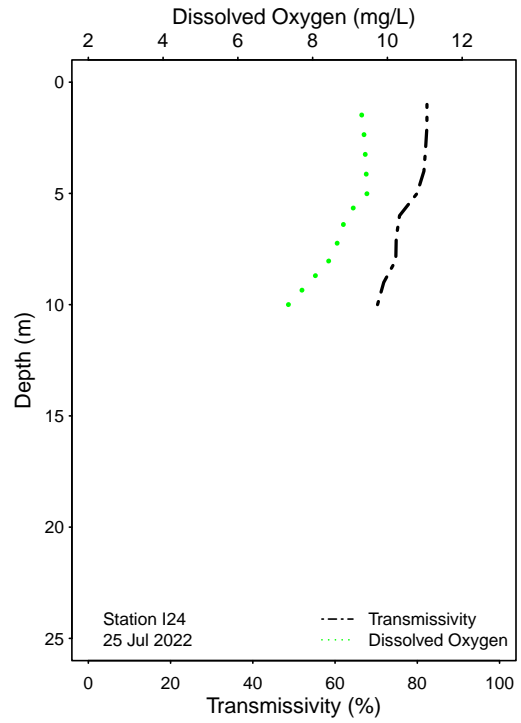
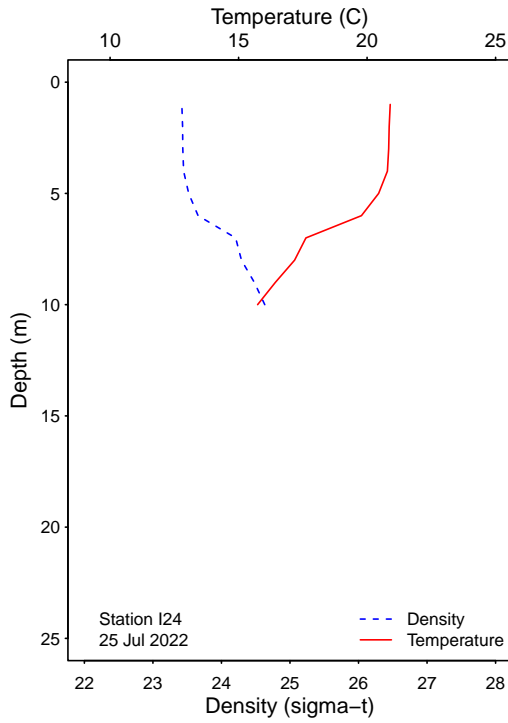


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

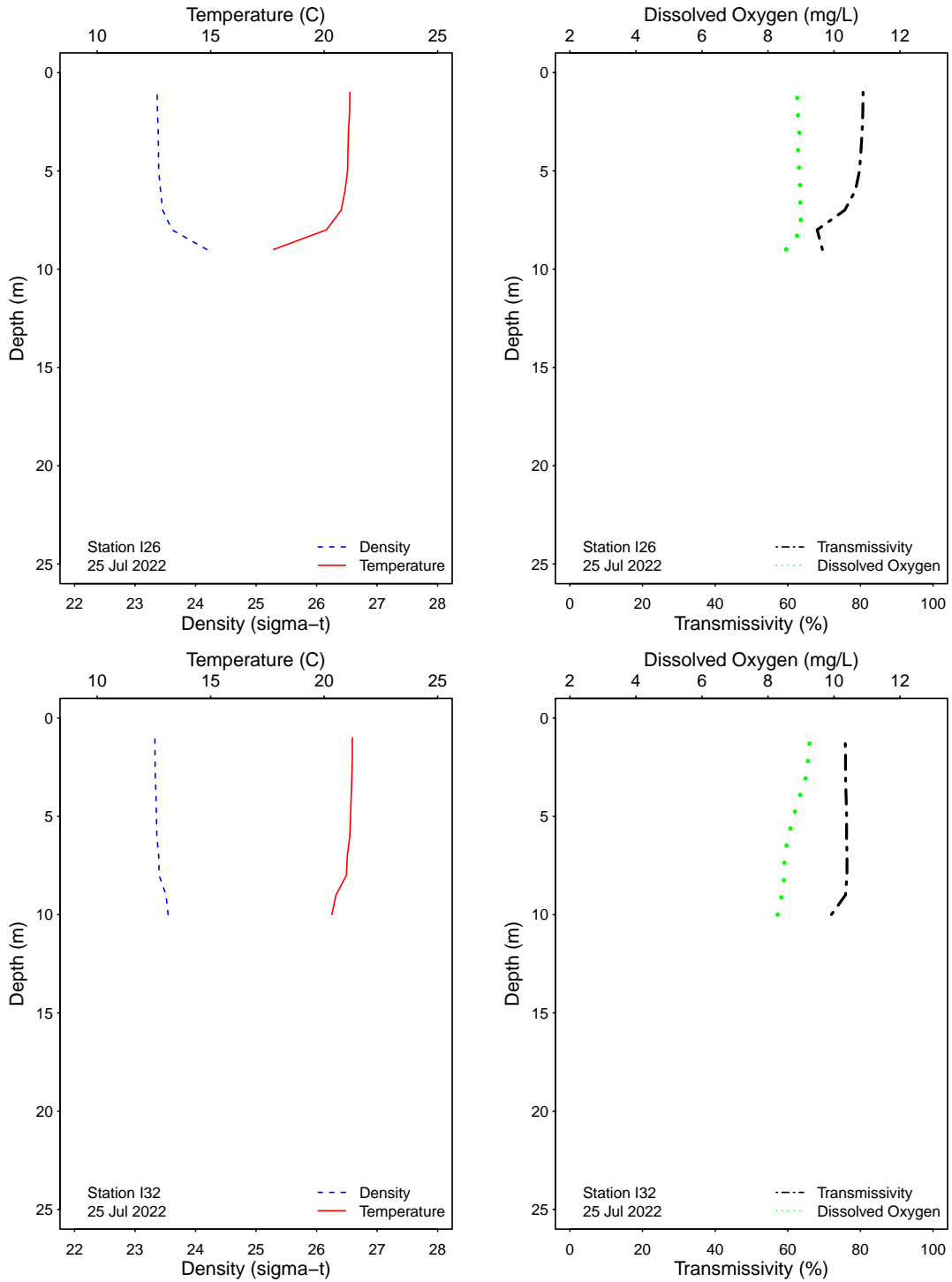


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

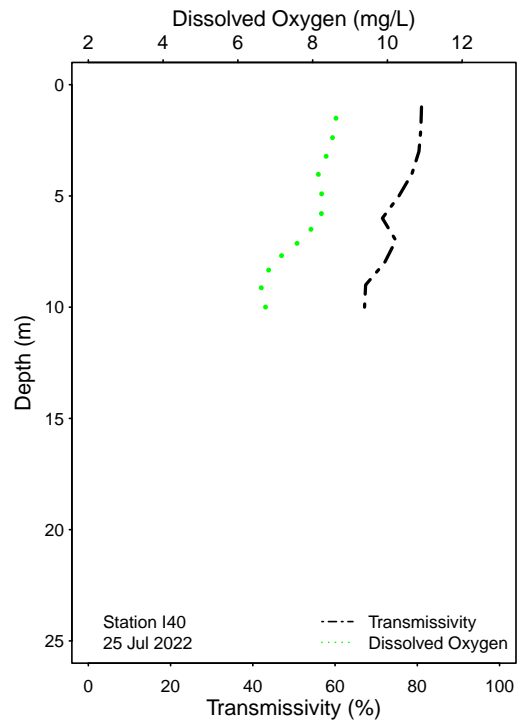
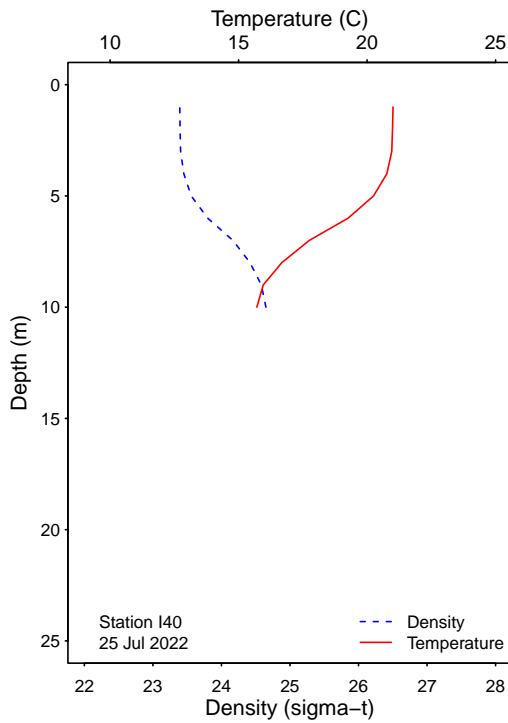
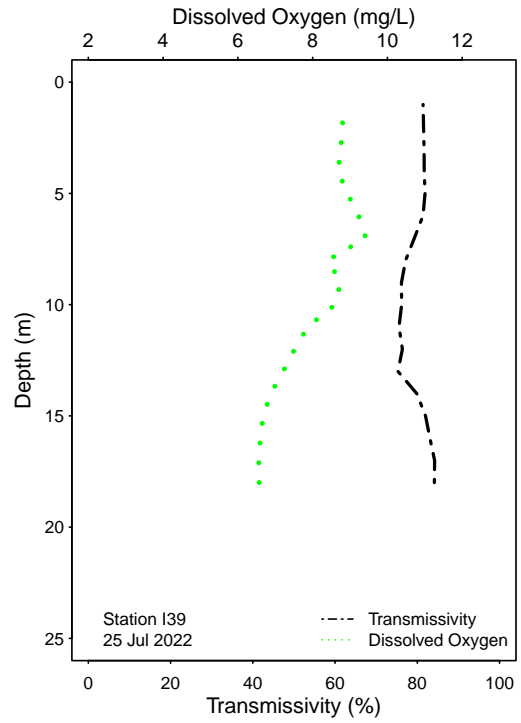
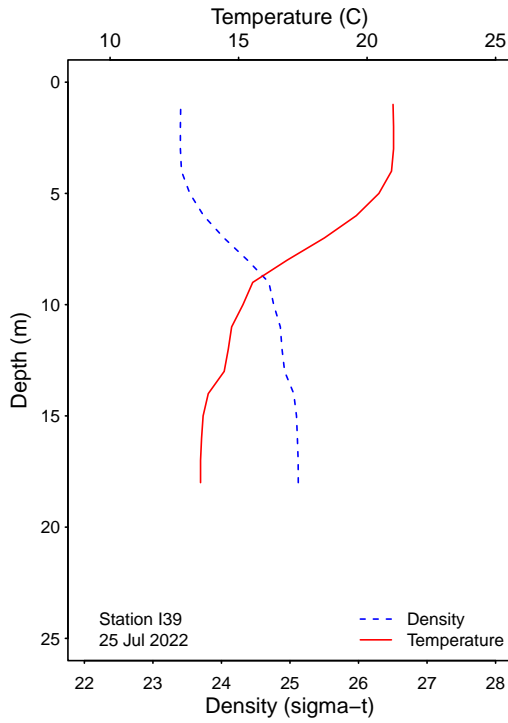


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected SBOO stations. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Enteroc) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enteroc
I19	05 Jul 2022	6	CRE	LAB DUPLICATE	<20	2e	<2
I19	11 Jul 2022	6	KA	LAB DUPLICATE	20e	2e	2e
I19	20 Jul 2022	6	BS	LAB DUPLICATE	20e	<2	2e
I19	25 Jul 2022	6	CRE	LAB DUPLICATE	40e	2e	<2
I40	05 Jul 2022	6	CRE	LAB DUPLICATE	<2	2e	<2
I40	11 Jul 2022	6	KA	LAB DUPLICATE	60e	6e	4e
I40	20 Jul 2022	6	BS	LAB DUPLICATE	280e	50	80
I40	25 Jul 2022	6	CRE	LAB DUPLICATE	2e	<2	<2
S12	05 Jul 2022		HF	FIELD DUPLICATE	6e	<2	<2
S12	05 Jul 2022		HF	LAB DUPLICATE	4e	2e	<2
S12	12 Jul 2022		KA	FIELD DUPLICATE	<20	4e	<2
S12	12 Jul 2022		KA	LAB DUPLICATE	<20	2e	2e
S12	19 Jul 2022		HF	FIELD DUPLICATE	120e	6e	24e
S12	19 Jul 2022		HF	LAB DUPLICATE	40e	8e	28e
S12	26 Jul 2022		HF	FIELD DUPLICATE	<20	4e	2e
S12	26 Jul 2022		HF	LAB DUPLICATE	<20	2e	<2

ns = not sampled

ND = no data

